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ABSTRACT

This 723-item bibliography lists materials on teacher effectiveness research published from 1978 to early 1984. Reference to some earlier works of significance is also included. Teacher effectiveness research is here defined to include principally studies conducted in the presage-context-process-product tradition in an attempt to determine relationships between teacher behaviors and students' cognitive and affective attainments. The bibliography deals with specific aspects of the topic: (1) classroom climate, warmth, enthusiasm; (2) classroom management; (3) direct instruction; (4) expectations; (5) instructional time; (6) mastery learning; (7) nonverbal behavior; (8) questions, turn allocation, and wait time; (9) reinforcement, feedback, praise, behavior modification; and (10) structure, planning, decision making, and clarity. (Author/JD)

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BIBLIOGRAPHIES IN EDUCATION

No. 78

TEACHER EFFECTIVENESS RESEARCH
PART II: SPECIAL TOPICS

May 1984

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TEACHER EFFECTIVENESS RESEARCH

This two-part bibliography lists materials on teacher effectiveness research published from 1978 to early 1984. Reference to some earlier works of significance is also included. Teacher effectiveness research is here defined to include principally studies conducted in the presage -- context -- process -- product tradition in an attempt to determine relationships between teacher behaviours and students' cognitive and affective attainments. Part I (Bibliography 77) includes reviews, critiques and reports of studies in which a wide selection of variables was considered. Discussions of observational instruments are also included. Part II (Bibliography 78) deals with such specific aspects of the topic as instructional time, classroom management, use of questions, reinforcement, planning and structure.

The sources consulted in preparing this bibliography include: Canadian Books in Print (Univ. of Toronto Press), Canadian Education Index (CEA), Current Index to Journals in Education (Oryx), Directory of Education Studies in Canada (CEA), Resources in Education (ERIC), and Subject Guide to Books in Print (Bowker).

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Geraldine Gilliss
Director
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1. CLASSROOM CLIMATE, WARMTH, ENTHUSIASUM

**1. Allen, Edward K. A Study of the Relationship of Teacher Enthusiasm to Salient, Selected Variables Influencing Achievement in the Vocational Laboratory. Final Report. Philadelphia: Temple University, 1979. 30p. Available ERIC. ED 179 781.

A study addressed the question, "If a teacher exhibits enthusiasm while instructing, what will be the effect upon measures relating to student achievement?" Student variables studied in relationship to teacher enthusiasm were (1) attendance; (2) interest in school and in the particular subject; (3) educational motivation; and (4) student rating of vocational teachers. Methodology involved having forty-three inservice vocational teachers submit two fifteen-minute videotaped teaching sessions wherein trained raters could assess the independent variable of teacher enthusiasm using eight carefully described criteria. Conclusions were that no significant correlation exists between teaching enthusiasm and the selected factors with the exception of student rating of instructors, where the coefficient was marginally significant.

**2. Bettencourt, Edward M., and others. Effects of Training Teachers in Enthusiasm on Student Achievement and Attitudes. Paper presented at the annual meeting of the American Educational Research Association, Boston, 1980. 14p. Available ERIC. ED 194 592.

A study was conducted to determine if training to increase teachers' observable level of enthusiasm had a subsequent effect on student achievement and attitudes toward the teacher and curriculum. Seventeen first-year elementary teachers were randomly assigned to either an enthusiasm training treatment or a no training treatment. Following the training phase, all teachers taught a two week controlled unit in mathematics to their classes. Results indicate that trained teachers increased significantly on eight indicators of enthusiasm compared with untrained teachers. However, students of trained and untrained teachers did not differ either on the achievement post-test or on the attitude scales. Analysis of the controlled instructional unit suggests an explanation for the similarity in post-test achievement of the experimental and control classes. The effect of teacher enthusiasm may have been minimized because students were enthusiastic about unit content and materials. Also, the instruction period was too short, and the achievement post-test too distal for teacher enthusiasm to affect it. Further research is suggested to determine the trainability of teacher enthusiasm and its empirical effects on student attitudes and achievement.

**3. Caruso, Virginia M. Teacher Enthusiasm Behaviors Reported by Teachers and Students. Paper presented at the annual meeting of the American Educational Research Association, New York, 1982. 27p. Available ERIC. ED 217 038.

Observable teacher behaviors were identified, by teachers and students in English and physical education classes, as either enthusiastic or not enthusiastic. Teachers described their own behaviors and students reported teacher behaviors by describing, in detail, specific events when teaching was perceived as enthusiastic and when teaching was perceived as not enthusiastic. Twenty enthusiastic behaviors were classified from behaviors reported by teachers and students. Participants agreed on five of the highest-ranked enthusiastic behaviors: participation humor, encouragement, praise, and momentum. Of the 16 behaviors classified as not enthusiastic, the behavior reported most frequently by teachers was disinterest, while students more frequently reported detachment as not enthusiastic. Teachers, more frequently than students, reported behaviors pertaining to the presentation and delivery of content material. Students tended to report behaviors related to classroom climate. Behavioral categories differed between teachers of English and physical education; behaviors emphasized by teachers and students in English focused on content delivery and classroom atmosphere, while teachers and students in physical education stressed personal interaction skills. Appendixes include samples of forms used in the study, lists of enthusiastic and unenthusiastic behaviors, and charts showing frequency of their occurrence in classroom interaction.

*4. Dykman, Benjamin, and Harry T. Reis. Personality Correlates of Classroom Seating Position. Journal of Educational Psychology, v71 n3 p346-54 Jun 1979.

Personality, personal space, and attitudinal measures were administered to high school students. Comparisons of extreme sections of the classroom revealed a significant polarization of student traits on three categories of variables dominated by self-concept and class participation. Differential participation and physical isolation were closely related to self-concept.

5. Estep, Linda E., and others. Teacher Pupil Control Ideology and Behavior as Predictors of Classroom Robustness. High School Journal, v63 n4 p155-59 Jan 1980.

It was hypothesized that confrontations between a strict teacher and misbehaving students would add drama and robustness to the classroom. In 88 secondary classrooms, robustness and teacher's control ideology and behavior were measured. The hypothesis was rejected; humanistic control behavior related to high robustness. A companion elementary study is discussed.

6. Fordham, Adrian. The Context of Teaching and Learning in Studies of Teacher Effectiveness. Studies in Educational Evaluation, v8 n2 p111-28 1982.

The author examines four categories of context variables (teacher characteristics, school policy and organization, instructional setting, and student characteristics) relating to teaching and learning in studies of teacher effectiveness, and argues that, by identifying contextual constraints within which teachers make decisions, teachers will be better able to select appropriate teaching strategies.

**7. Gabrys, Robert E. An Analysis of the Influence of a Training Intervention for Business-Like Behavior on the Business-Like Behavior and Level of Warmth of Preservice Elementary Teachers. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, 1979. 38p. Available ERIC. ED 171 681.

This study was designed to see if preservice elementary teachers having undergone a training intervention on business-like behavior can significantly increase their observable level of business-like behavior and maintain the level of increase ten weeks after training. The observed level of warmth was also monitored in relationship to the training intervention. The training intervention included classroom instruction, identification, and observation of business-like descriptors in classroom settings, role playing, peer teaching, and microteaching. Significant results were obtained relative to the intervention, and nonsignificant correlations found between business-like behavior and warmth.

**8. Gillett, Max, and Meredith Gall. The Effects of Teacher Enthusiasm on the At-Task Behavior of Students in Elementary Grades. 1980. 51p. Available ERIC. ED 202 823.

Research has shown causal and correlational links between teacher enthusiasm and student achievement, and between student at-task behavior and student achievement. This study tested the causal link between teacher enthusiasm and student achievement, using teaching as an independent variable and at-task behavior as a dependent variable in mathematics classes for students from the first to sixth grades. An experimental group of teachers participated in a two-week training procedure for enthusiasm. Experimental and control group teachers were videotaped both before and after training with observers recording pupils' at-task behaviors on a five-second interval system. The results showed that the teachers who had enthusiasm training showed a significant increase in level of enthusiasm, and that their pupils had a significantly higher level of at-task performance, under both direct and indirect teacher influence.

**9. Hamilton, Stephen F. The Social Side of Schooling: Ecological Studies of Classrooms and Schools. Elementary School Journal, v83 n4 p313-34 Mar 1983.

Argues that if schools are to be made more effective, educators must understand the interaction between their academic and socialization functions, as well as comprehend what happens in schools and the societal context in which schools are embedded.

10. Larkins, A.G., and C.W. McKinney. Two Studies of the Effects of Teacher Enthusiasm on Social Studies Achievement of Seventh Grade Students. Theory and Research in Social Education, v10 n1 p27-41 Spr 1982.

Reports on two studies which examined the effect of teacher enthusiasm on the social studies achievement of seventh-grade students. The purpose of the first study was to determine whether three levels of teacher enthusiasms would produce corresponding differences in social studies achievement. The second study was an attempt to replicate the findings of the first.

11. Licata, Joseph W., and James R. Wildes. Environmental Robustness and Classroom Structure: Some Field Observations. High School Journal, v63 n4 p146-54 Jan 1980.

In a small secondary school in rural Georgia, this study sought to identify sample classrooms perceived by students and teachers as varying substantially in environmental robustness and to observe these classrooms to describe and contrast their structural features. Identified characteristics of high- and low-robustness classrooms are listed and discussed.

12. McKinney, C.W., and A.G. Larkins. Effects of High, Normal, and Low Teacher Enthusiasm on Secondary Social Studies Achievement. Social Education, v46 n4 p290-92 Apr 1982.

Describes five recent studies by the authors on the effects of teacher enthusiasm on secondary social studies achievement. Study results indicate that students can perceive differences in teacher enthusiasm. Students prefer higher levels of enthusiasm and appear to learn more from lessons taught enthusiastically.

*13. McKinney, C. Warren, and others. Some Effects of Teacher Enthusiasm on Student Achievement in Fourth Grade Social Studies. Journal of Educational Research, v76 n4 p249-53 Mar-Apr 1983.

This study examined the effects of teacher enthusiasm on the achievement of fourth-grade pupils, as well as the ability of teachers to exhibit interteacher similarity in enthusiasm.

Among results discussed is the finding of no effect of teacher enthusiasm on social studies achievement of fourth-grade students.

*14. Moos, Rudolf H., and Bernice S. Moos. Classroom Social Climate and Student Absences and Grades. Journal of Educational Psychology, v70 n2 p263-9 Apr 1978.

Student ratings of classroom social environments were related to absenteeism rates and average final grades. Classes with high absenteeism rates were seen as high in competition and teacher control and low in teacher support. Classes in which teachers gave higher average grades were seen as high in involvement and low in teacher control.

*15. Owens, Lee, and Jennifer Barnes. The Relationships Between Cooperative, Competitive, and Individualized Learning Preferences and Students' Perceptions of Classroom Learning Atmosphere. American Educational Research Journal, v19 n2 p182-200 Sum 1982.

Learning preferences and perceptions of classroom learning atmosphere were compared for 279 math and English students in grades 7 and 11. Results indicated that Grade 11 students prefer both more cooperative and competitive contact than do Grade 7 students. Girls prefer competing in English and boys, in math.

16. Ryan, Doris W. The IEA Classroom Environment Study: Teaching for Learning. Field Dev. N., v11 n8 p1-5 Apr'81.

No annotation available.

*17. Weinstein, Carol S. The Physical Environment of the School: A Review of the Research. Review of Educational Research, v49 n4 p577-610 Fall'79.

This paper reviews research on the impact of classroom environments on student behavior, attitudes, and achievement. The first section examines studies of six environmental variables: seating position, classroom design, density, privacy, noise, and the presence or absence of windows. In the second part of the paper, research conducted from an "ecological" perspective is considered. A third section focuses on the effects of open space school designs. Finally, some future directions for research are discussed, and the advantages and limitations of various research designs are summarized.

**18. Weinstein, Carol S., and Anita E. Woolfolk. Impression Formation and Classroom Design: The Impact of Spatial Arrangement and Neatness on Judgments of Teachers. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, 1979. 13p. Available ERIC. ED 172 717.

A study was conducted to examine the impact of classroom arrangement (open versus traditional) and tidiness (messy versus neat) on observers' expectations about a teacher. A heterogeneous sample of college students was shown color slides of vacant elementary classrooms varying in terms of these two dimensions and asked to indicate their impressions of the teachers and the pupils who used the rooms. A multifactor, repeated-measures analysis of variance was conducted. Findings indicate that observers form strong impressions about a teacher's behavior and personality based on the neatness of the classroom. In addition, furniture arrangement had a significant impact, with open classrooms leading to more positive impressions of a teacher's responsiveness and creativity.

19. Whitney, Hassler. What is Behind the Failure? Mathematics Teaching, n95 p21-25 Jun 1981.

The improvement of the classroom climate for the purpose of real, useable learning by pupils is viewed as a subtle problem, involving both hidden pressures and many little classroom pressures. Some of the problems and possible paths towards improvement are discussed.

2. CLASSROOM MANAGEMENT

20. Aho, Sirkku. Modification of Disruptive Behavior: The Adaptation of Token Reinforcement, Model Learning and Role Playing Methods to Overcome Disruptions of Orderly Working Conditions at School. Scandinavian Journal of Educational Research, v22 n2 p49-64 1978.

    This research attempts to develop methods which teachers can use now in dealing with disturbances in the classroom, and to investigate the efficiency of these methods in decreasing the disturbances in working conditions. Develops the idea that teachers should be able to use positive means in dealing with disruptive behavior by students.

**21. Allen, Sherwin. A Study to Determine the Effectiveness of a Positive Approach to Discipline System for Classroom Management. Paper presented at the annual meeting of the American Educational Research Association, Los Angeles, 1981. 16p. Available ERIC. ED 203 490. Microfiche only.

    To test the effectiveness of the Positive Approach to Discipline (PAD) System of classroom management, this study examined changes in the incidence of administrative disciplinary referrals, corporal punishment, and school suspensions in an urban Southwest public middle school. The 13-step PAD procedure -- incorporating counseling, problem-solving, and time-out centers -- was applied during one school quarter by 12 seventh-grade teachers trained in PAD techniques. Comparative data were collected for the quarters preceding and following the PAD application. The results showed a significant reduction in administrative referrals and school suspensions, but not in corporal punishment, during the quarter when PAD was in use. These findings indicate that the PAD system can be an effective method of school discipline and a potential asset to the educational process.

*22. Ames, Michael D. Beyond Competency and Control: Teachers as Managers. Elementary School Journal, v79 n1 p6-14 Sep 1978.

    Suggests that emerging skills for competent teaching are similar to those required of the industrial supervisor. Outlines executive and counselor roles of teachers. Indicates lack of management training in teacher education. Accents management skills useful to teachers.

**23. Anderson, Linda M., and Carolyn M. Evertson. Classroom Organization at the Beginning of School: Two Case Studies. Paper presented at the annual meeting of the American Association of Colleges for Teacher Education, Chicago, 1978. 52p. Available ERIC. ED 166 193.

Observation of two third-grade teachers during the opening days of school revealed different approaches to organizing their classes and instructing pupils on correct classroom behavior. The results of observation are given in narrative form and analyzed. Five principles that characterized the most effective teacher are presented: (1) The teacher who was better organized demonstrated an ability to analyze the tasks of the first weeks of school and presented them to students in small easily understood steps; (2) Before the morning began, the better-organized teacher had clear expectations about what she would accept in the students' behavior and what would be encouraged; (3) The better-organized teacher communicated her expectations clearly to the students from the beginning; (4) The better-organized teacher remained sensitive to the students' concerns and needs for information; and (5) The better-organized teacher monitored her students closely in order to give immediate feedback. Follow-up questions from the classroom organization study are appended.

**24. Anderson, Linda M., and Jere E. Brophy. An Experimental Study of Reading Group Instruction: Data from Teacher Interviews. R&D Report No. 4073. Austin: Texas Univ. Research and Development Center for Teacher Education, 1979. 57p. Available ERIC. ED 177 486.

As part of an investigation of effective first grade reading group instruction, teacher interviews were conducted and analyzed to determine differences between control and treatment group teachers, the relation between interview responses and adjusted student achievement, and the relation between teacher self-ratings and observed behaviors. Ten teachers were a control group, while the other 17 teachers used an instructional model consisting of 22 principles believed to promote effective instruction in small groups in the early grades. The model emphasized the management of the group as a whole and the feedback teachers gave to student answers. Although the results were not as strong as expected -- few clear relationships existed between interview responses and adjusted achievement--the responses of treatment teachers were more in line with the treatment than were the control group's responses. Behaviors that had been most specifically described in the treatment model correlated with teachers' observed behaviors.

**25. Anderson, Linda M., and others. Dimensions in Classroom Management Derived from Recent Research. R&D Report No. 6006. Paper presented at the annual meeting of the American Educational

Research Association, San Francisco, 1979. 76p. Available ERIC. ED 175 860.

A year-long study of 28 third-grade teachers yielded extensive data describing their classroom management practices. The seven most effective and the seven least effective teachers were compared to determine what dimensions of mangement discriminated between them. Teachers who qualified as "better managers" had a firm preconceived notion of acceptable student behaviors and fashioned their classroom structures in such a way as to actively discourage intolerable behaviors. They also exhibited superb task analysis and an expertise in coordinating teacher and student activities in the most efficient manner. The "less effective" managers appeared to suffer from the lack of a clear set of expectations regarding student behavior and student work level. They considered student activity primarily on the basis of discouraging refractory deportment and did not display an adequately aggressive disposition towards positive student involvement. Although analysis is incomplete, some working hypotheses about the differences between the two types of teacher-managers are presented.

**26. Atlanta Teacher Corps Consortium. Classroom Management: Teaching Techniques and Strategies for Dealing with Discipline Problems. 1978. 78p. Available ERIC. ED 182 023.

Techniques and activities for effective classroom management are presented in this module. The stated objectives of the module are to promote appropriate student behavior, to develop good interpersonal relationships and a positive socioemotional climate, and to establish and maintain a productive classroom organization. Samples of pre-post assessment instruments are included for student self-evaluation, student interest inventory, and teacher or administrator self-evaluation. A profile of the typical disruptive student is also included. Learning tasks and activities are presented for brainstorming, role playing, contracting, utilizing a rewards program, employing a buddy system, communicating, clarifying values, exploring self concept (Maslow), and following a positive discipline model (Glasser). Types of control techniques are examined briefly and classroom organization is touched upon. General tips for being a good classroom manager and specific tips for managing inner city classrooms are offered. A list of printed and audio-visual resources is included.

*27. Ban, John R. A Lesson Plan Approach for Dealing with School Discipline. Clearing House, v55 n8 p345-58 Apr 1982.

Proposes that teachers begin the school year with a class study of discipline and student participation in establishing classroom rules. Describes the components of such a lesson and the procedures and forms inherent in any effective discipline system.

**28. Basualdo, Suzanne M., and Eugenio A. Basualdo. Models to Prevent and Deal with Disruptive Behavior(s) in the Classroom: A Review of the Literature. 1980. 76p. Available ERIC. ED 202 812.

This paper reports on approaches shown to be successful in preventing and dealing with disruptive behavior in the classroom. The studies on preventing classroom disruptions state that the best prevention is effective instruction, achieved through lending increased importance to teacher preparation programs that emphasize teaching content, curriculum development, and evaluation of instruction. The models concerned with managing classroom disciplinary problems are more numerous, and can be grouped into five categories: (1) teacher-centered; (2) analytic; (3) behavioristic; (4) student-centered; and (5) student-teacher interaction. Each method is described, and its variations are delineated. It is suggested that teachers and prospective teachers must conduct a self-analysis to determine the approach best suited to their personality. A teacher preparation program that provides future teachers with a variety of techniques for dealing with classroom behavior problems has the greatest potential for producing teachers who can successfully manage the classroom environment and help those students with behavior problems.

29. Bechtol, William, and Dorothy Anderson. Preventative Discipline: A Review of Literature. Small School Forum, v3 n2 p8-11 Win 1981.

Effective classroom management, the key to successful teaching, includes immediate development of classroom rules, communication, high expectations of students, awareness of potential problems, careful lesson and activity plans for smooth classroom movement, and reasonable responses to students. Successful teachers are also aware of student and parent expectations of them.

30. Beck, Mitchell A., and Cathy Roblee. Understanding and Effectively Managing the Aggressive Child. Reading Improvement, v20 n1 p17-21 Spr 1983.

Identifies specific behavioral characteristics of both aggressive and passive-aggressive students, delineates a four-step process that most aggressive students go through as they lose control of their emotions, and describes intervention strategies that teachers can use to deal with each step of the breakdown of control.

*31. Blumenfeld, Phyllis C., and others. The Formation and Role of Self Perceptions of Ability in Elementary Classrooms. Elementary School Journal, v82 n5 p401-20 May 1982.

Discussing research on the effects of developmental differences, task characteristics, teacher feedback, and classroom management and organization on children's perceptions of their abilities, this article speculates on whether and how these perceptions influence children's behavior. (Implications of this research for classroom practice are also suggested.)

*32. Borg, Walter R., and Frank R. Ascione. Changing On-Task, Off-Task, and Disruptive Pupil Behavior in Elementary Mainstreaming Classrooms. Journal of Educational Research, v72 n5 p243-52 May-Jun 1979.

Elementary school teachers trained in a class management program changed behaviors and improved student performance in both handicapped and nonhandicapped pupils in mainstreamed classrooms.

*33. Borg, Walter R., and Frank R. Ascione. Classroom Management in Elementary Mainstreaming Classrooms. Journal of Educational Psychology, v74 n1 p85-95 Feb 1982.

This research was aimed at adapting the Utah State University Classroom Management Program for use in elementary mainstreaming classrooms and evaluating the program's effectiveness in changing teacher and pupil behavior. The program appears to be powerful in changing teacher behavior and an effective classroom management training tool.

34. Borman, Kathryn M. Overview: Patterns of Classroom Authority. Education and Urban Society, v11 n1 p3-12 Nov 1978.

The following themes integrate the collection of papers presented in this issue: ethnographic approaches; the importance of the teacher's role as arbitrator; the necessity to study firsthand the interaction of teachers and students; and the need not to separate the classroom from its larger institutional and social settings.

**35. Borman, Kathryn M., and others. Characteristics of Family and Classroom Control in an Urban Appalachian Neighborhood. Paper presented at the annual meeting of the American Educational Research Association, Toronto, 1978. 26p. Available ERIC. ED 159 296.

Data collected from observations of a kindergarten class, and parent interviews with second and third generation

Appalachian families living in an inner city working class neighborhood, when contrasted with Melvin Kohn's work on values, illuminate the discontinuity between the language of social control in the home and at school. Appalachian families' parental control strategies, sex roles in child rearing, and standards of behavior do not conform to those of non-Appalachian working class families. Like middle class parents, Appalachian parents value independence and self direction rather than obedience to authority. The teacher's control of the Appalachian children in a classroom is most effective when it is child referenced rather than authority-centered. Future classroom research must consider cultural and ethnic factors, social class, and other family background variables of the children being observed, rather than focusing solely on the role teachers and schools have in maintaining classroom control.

36. Borman, Kathryn M., and others. Family and Classroom Control in an Urban Appalachian Neighborhood. Education and Urban Society, v11 n1 p61-86 Nov 1978.

Those engaged in classroom research must be careful to explain their models of classroom management and control with reference to the social class, ethnicity, and other family background variables of the children who constitute the student population of the classroom.

37. Bossert, Steven T. Classroom Structure and Teacher Authority. Education and Urban Society, v11 n1 p49-59 Nov 1978.

Classroom research must examine how authority is expressed. However, its expression cannot be conceived of solely as a property of the teacher: Many aspects of the exercise of authority are a function of the classroom instructional organization. These effects must be fully detailed.

**38. Boules, Allen, ed., and others. Crossroads...A Handbook For Effective Classroom Management. Oklahoma City: Oklahoma State Department of Education, 1981. 182p. Available ERIC. ED 204 335.

A positive, preventive approach to discipline in the classroom is emphasized in this handbook of practical ideas for class management. Suggestions are made on the following topics: (1) handling the first day of school; (2) the physical environment of the classroom; (3) management routines; (4) teaching techniques; (5) motivating students; (6) control techniques and classroom discipline; and (7) dealing with teacher stress. The final section deals with behavior problems. Possible solutions are offered for handling specific disruptive behaviors such as vandalism, physical abuse, tardiness, or stealing. A bibliography is included.

**39. Bowermaster, Janet. *Classroom Management and Learning in Elementary Schools*. Urbana, Ill.: ERIC Clearinghouse on Elementary and Early Childhood Education, 1981. 47p. Available ERIC. ED 202 566.

This paper reviews recent literature on classroom management, focusing specifically on teachers' techniques for organizing students, space, time and materials in order to keep a class running smoothly so that learning can take place. Four main areas of classroom management research which are relevant to elementary school teachers are identified and discussed. The first area deals with advance planning of classroom logistics. The second involves preparing students for their classroom role. The third concerns teacher management behaviors involved in minute-to-minute classroom interactions with students. The final area deals with the characteristics of formal lesson structures that affect management behaviors. As each area is reviewed, management methods suggested by the research are described.

*40. Brophy, Jere E. Classroom Management and Learning. *American Education*, v18 n2 p20-23 Mar 1982.

Survey results show that planning and constant vigilance are the price of effective teaching. Effective classroom management involves awareness, good organizational skills, preparation, letting students know what is expected of them and following through, and the ability to diagnose student problems.

*41. Brophy, Jere E. Classroom Organization and Management. *Elementary School Journal*, v83 n4 p265-85 Mar 1983.

Reviews research in the areas of classroom organization and management, delineating the principles underlying a comprehensive approach to these areas.

**42. Brophy, Jere. *Classroom Organization and Management*. Paper presented at a conference sponsored by the National Institute of Education, Warrenton, Va., 1982. 54p. Available ERIC. ED 218 257.

The major emphasis in the studies considered in this paper is on the role of the teacher as a professional with particular expertise and specific but limited responsibilities to students and parents, and with certain rights as the instructional leader and authority figure in the classroom. According to research studies, a comprehensive approach to classroom management would include: (1) attention to student characteristics and individual differences; (2) preparation of the classroom as an effective learning environment; (3) organization of instruction and support activities to maximize student engagement in productive tasks; (4) development of a workable set of housekeeping procedures and behavior rules; (5) techniques for group management during active instruction and motivating and shaping desired behavior; (6) techniques for conflict resolution and dealing with students' personal adjustment problems; and (7) orchestration of all these elements into an internally consistent and effective system. Recent research on these elements is cited and discussed in the context of a well-organized and well-managed classroom and the distinguishing differences between effective and ineffective teachers. Brief reviews are given of studies on effective techniques for establishing order and control at the beginning of the school year, supplemental group management techniques, and behavior modification techniques. The findings and suggestions arising from current research on counseling and therapy are also reviewed and discussed.

**43. Brophy, Jere E., and Joyce G. Putnam. Classroom Management in the Elementary Grades. Research Series No. 32. East Lansing: Michigan State Univ. Institute for Research on Teaching, 1978. 131p. Available ERIC. ED 167 537.

The literature on elementary school classroom management is reviewed. Topics include student characteristics and individual differences, preparing the classroom as a learning environment, organizing instruction and support activities to maximize student engagement in productive tasks, developing workable housekeeping procedures and conduct rules, managing groups during instruction, motivating and shaping desired behavior, resolving conflict and dealing with students' personal adjustment problems, and orchestration of these elements into an internally consistent and effective system. Promising teacher education approaches are discussed in the closing section.

**44. Brophy, Jere E., and Mary M. Rohrkemper. Teachers' Specific Strategies for Dealing with Hostile, Aggressive Students. Research Series No. 86. Paper presented at the annual meeting of the American Educational Research Association, Boston, 1980. 62p. Available ERIC. ED 196 885.

Elementary teachers' free response self reports of how they would respond to students' hostile aggressive behavior (as depicted in two written vignettes) were transcribed, coded, and analyzed for relationships to the teachers' grade level (K-3 vs. 4-6), school location (Lansing vs. inner-city Detroit), and rating by their principals and by classroom observers (on ability to cope with problem students). In general, most teachers were poorly prepared to cope with student aggressiveness, and many, especially inner-city teachers, did not wish to even try to do so, preferring instead to refer the students to the principal. Teachers rated higher in ability to cope with problem students were more likely than teachers rated lower to try to settle the incident themselves and to try to socialize the aggressive students more effectively rather than to just punish them.

**45. Butler, Michael J. Discipline and the Educational Process: Coping in the Classroom. Briefly on... Classroom Discipline. No. 3. Washington, D.C.: ERIC Clearinghouse on Teacher Education, 1978. 5p. Available ERIC. ED 170 293.

This paper presents an overview of the literature concerning discipline in the classroom, focusing specifically on the root causes of discipline problems and the development of problem-specific responses. A bibliography and suggestions for further reading are also included.

**46. Colbert, C. Dianne. Classroom Teacher Behavior and Instructional Organization Patterns. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, 1979. 14p. Available ERIC. ED 170 280.

The instructional organization patterns used by experienced teachers in coping with classroom environmental demands is described. Observations of teachers in natural settings were conducted using both a self-designed observation schedule and brief narratives to capture the nature of the classroom climate. Results suggest that teachers use organization patterns as strategies for coping with multiple events as well as for structuring content into manageable learning units for students. The organization patterns are discussed in terms of their implications for teacher education.

*47. Colbert, C. Dianne. Instructional Organization Patterns of Fourth Grade Teachers. Theory into Practice, v18 n3 p170-73 Jun 1979.

The results of a three-year study designed to identify sets of teaching skills necessary to meet the demands of a fourth-grade classroom environment are discussed.

48. Colbert, C. Dianne. Teacher Instructional Management Patterns. Illinois School Research and Development, v15 n3 p85-92 Spr 1979.

In this ethnographic study, four context variables emerged as having importance for teacher behavior: lesson type (new material, continuing topic, review); subject matter; size of instructional group (whole class, small group, individual); and time of day or week. Teacher behavior categories analyzed were: diagnostician, designer, facilitator, manager, and evaluator.

**49. Coleman, Joyce H., and others. Setting the Stage for Effective Learning in a Bilingual-Multicultural Environment. Bilingual/Bicultural Child Development Associate Pilot Project: Module X. San Antonio, Tex.: Our Lady of the Lake Univ., 1978. 51p. Available ERIC. ED 170 037. Microfiche only.

This Child Development Associate (CDA) training module, the tenth in a series of 16, focuses on developing classroom management skills among trainees in a competency-based bilingual/bicultural preschool teacher training program. The text of the module deals with providing a supportive environment, setting up classroom rules, using teaching techniques which minimize disruptive behavior, specifying and rewarding desirable behavior, and stopping misbehavior appropriately. The module includes trainee learning activities and a pretest and a posttest of the trainee's understanding of the material. The module focuses on specific behaviors which directly relate to CDA Competencies 1 and 4.

*50. Correll, Linda, and others. Turning a Disruptive Study Hall into an Effective Learning Center. NASSP Bulletin, v67 n462 p71-74 Apr 1983.

Following training and experience as peer tutors in a behaviorally oriented reading program for junior high school students, formerly disruptive students decreased their disruptive behaviors and exhibited improved morale and increased academic progress. This article describes the program and provides suggestions for implementing a similar one.

**51. Doyle, Walter. Classroom Management. West Lafayette, Ind.: Kappa Delta Pi, 1980. 35p. Available ERIC. ED 206 567. Microfiche only.

This booklet describes a foundation for effective classroom management and focuses on some of the basic processes involved in creating a cooperative atmosphere in the classroom. Four topics are considered: the beginning of the school year, selecting and arranging activities, monitoring and timing activities in the classroom, and stopping misbehavior. Examples are offered of effective procedures for dealing with each of these topics. Descriptions are given of successful ways to pace activities to minimize possibilities for misbehavior, selecting occasions for intervention, sequencing classroom activities, and handling transitions from one activity to another. Recommendations are made for dealing with "hard core" disruptive students, punishment, and behavior modification. It is pointed out that effective management requires: (1) extensive knowledge of what is likely to happen in classrooms; (2) ability to process a large amount of information rapidly; and (3) skill in carrying out effective actions over a long period of time.

*52. Duke, Daniel L., ed. Classroom Management. The Seventy-eighth Yearbook of the National Society for the Study of Education. Part II. Chicago: National Society for the Study of Education, 1979. 447p. Not available ERIC. ED 175 087.

> This collection of essays is intended to give a broad view of what is currently known about the management of classrooms. Contents include "Conceptualizing Classroom Management" by Mauritz Johnson and Harry Brooks; "Making Managerial Decisions in Classrooms" by Walter Doyle; "Authority and the Management of Classroom Activities" by William G. Spady and Douglas E. Mitchell; "Task and Authority: A Sociological View of Classroom Management" by Elizabeth G. Cohen, Jo-Ann K. Intili, and Susan Hurevitz Robbins; "Grouping Students for Instruction" by Robert Calfee and Roger Brown; "Classroom Management in the Elementary Grades" by Jere E. Brophy and Joyce G. Putnam; "Problems of Student Behavior in Secondary Schools" by John Feldhusen; "Classroom Instruction and the Matter of Time" by Lyn Corno; "Utilizing Nonteachers in the Instructional Process" by Beatrice A. Ward and William J. Tikunoff; "Classroom Management and the Exceptional Learner" by Frank M. Hewett and Philip C. Watson; "Environmental Influences on Classroom Management" by Daniel L. Duke; "The Rights of Students in the Classroom and School" by Donald A. Myers; and "Perspectives on Theory, Research, and Practice" by John I. Goodlad.

*53. Duke, Daniel L., ed. Helping Teachers Manage Classrooms. Alexandria, Va.: Association for Supervision and Curriculum Development, 1982. 173p. Available ERIC. ED 218 710. Microfiche only.

> This book of eight separately authored chapters is intended to provide teachers and other educators with assistance in finding ways to improve student discipline by establishing and maintaining an effective learning environment. The first three chapters stress the teacher's role. Chapter 1 describes the planning, implementation, and maintenance of strategies for preventing behavior problems; chapter 2 discusses differences between managing groups and handling individual problems; and chapter 3 surveys the range of information an adequate classroom management training program must include. Chapter 4 deals with meeting the special needs of students, touching specifically on assessment and referral and on special programs and services. The fifth chapter examines the important relationship between teachers' intentions and the results of their actions, and presents methods for improving student-teacher communication. The last three chapters explore the educational environment's effect on behavior. Chapter 6 analyzes the different management styles required by different student groupings; chapter 7 probes the ways schools can be organized to encourage development of good behavior habits in students; and the last chapter describes relationships between schools'

organizational characteristics and their behavioral objectives.

*54. Duke, Daniel L., and others. Emerging Legal Issues Related to Classroom Management. Journal of Law and Education, v8 n4 p495-506 Oct 1979.

Discusses six legal issues that are emerging at the classroom level: class suspension and due process, class rules and teacher inconsistency, classroom equality of opportunity, competency testing, classification of students, and classroom management in alternative schools.

*55. Duke, Daniel L., and others. Emerging Legal Issues Related to Classroom Management. Phi Delta Kappan, v60 n4 p305-09 Dec 1978.

Six sets of emerging issues that could involve specific students and classroom situations are discussed here: class suspensions and due process, class rules and teacher inconsistency, classroom equality of opportunity, competency testing, classification of students, and classroom management in alternative schools.

*56. Eaton, Marie, and Cheryl L. Hansen. When Classroom Control Is Slipping Away, Ask Yourself... (Behavioural Control through Naturalistic Solutions). B. C. Journal of Special Education, v3 n4 p335-56 Win 1979.

A review of behavioral research in the area of classroom management is presented. Four questions for teachers to ask themselves when a problem in the classroom arises explore the appropriateness of the instructional materials, student understanding of teacher expectations, management effectiveness, and sources of help.

*57. Eberlein, Larry. Legal Concerns in Classroom Management: Role of the Counsellor. Canadian Counsellor, v14 n1 p21-26 Oct 1979.

Discusses basic sources of legal authority to control student behavior and court cases relating to improper discipline. Suggestions are made for counselor and teacher action to achieve desired classroom goals while still protecting student and parental rights to freedom from unlawful interference with the person or invasion of family privacy.

**58. Eder, Donna. The Impact of Management and Turn-Allocation Activities on Student Performance. Working Papers in

Sociolinguistics, No. 65. Austin, Tex.: Southwest Educational Development Lab., 1979. 23p. Available ERIC. ED 197 580.

This paper examines the effect of a teacher's management and turn-allocation acts on student performance during reading group lessons in a first grade classroom. The class was observed and videotaped for a year, and interviews were conducted with both teacher and students. The study focuses specifically on cases where management, turn-allocation, and academic activities are performed simultaneously by the teacher. It shows through a discourse analysis that one of the consequences of this practice is the disruption of students' reading turns. During the disruption, often another student provides the correct word to a student who had been hesitating over it. When this happens too often, the students who know fewer words have less chance of learning to read. The results of the study suggest that it is crucial that management be minimized as much as possible because of its negative effects. They also indicate the importance of including non-verbal behavior in future research on turn taking.

59. Eder, Donna. The Impact of Management and Turn-Allocation Activities on Student Performance. Discourse Processes, v5 n2 p147-59 Apr-Jun 1982.

Examines the effect of management and turn-allocation activities on students' reading performance during classroom lessons. Shows that the teacher was often oriented toward other class members while eliciting information during students' reading turns.

**60. Emmer, Edmund T. Effective Management in Junior High Mathematics Classrooms. Austin: Texas Univ. Research and Development Center for Teacher Education, 1981. 59p. Available ERIC. ED 206 448.

Reporting on part of the data collected in the Junior High Classroom Organization Study, this document focuses on the mathematics subsample. Twenty-six mathematics teachers in 11 junior high schools were observed in two classes. The major purpose of this paper is to describe the classroom procedures and behaviors of teachers identified as effective classroom managers. First, the correlations of management variables and the achievement and attitude variables are considered. Next the extent to which teachers affect the classes' achievement gains is reviewed, followed by a description of the process of selecting subsamples for further analysis and description. A model of appropriate and inappropriate teacher management methods is outlined, and further illustrated by two case studies excerpted from narrative scripts that describe a poor manager and a highly capable one. The study indicates that effective classroom management throughout the year is facilitated by several facets. Among these, the good manager made a clear set of expectations for appropriate student behavior in a wide variety of class activities, and the classrooms were characterized by good monitoring and prompt handling of inappropriate behavior.

**61. Emmer, Edmund T., and Carolyn M. Evertson. Effective Classroom Management at the Beginning of the School Year. Austin: Texas Univ. Research and Development Center for Teacher Education, 1979. 53p. Available ERIC. ED 178 542.

The crucial importance of beginning-of-the-year activities in establishing good behavior patterns in the elementary classroom is asserted. Observations were made of two groups of teachers who were very different in management effectiveness throughout a school year. A number differences between the two groups' first- day and beginning-of-the-year activities were noted. Examples of the behavior of these teachers are presented with discussions on observed student reactive behaviors. It is concluded that effective classroom organization and management during the year can be predicted from the first several weeks of the school year.

*62. Emmer, Edmund T., and Carolyn M. Evertson. Synthesis of Research on Classroom Management. Educational Leadership, v38 n4 p342-43, 345-47 Jan 1981.

Important classroom management tasks occur during the first several weeks of the year, when the teacher establishes expectations about behavior and teaches the students the classroom procedures.

**63. Emmer, Edmund T., and others. The Classroom Management Improvement Study: An Experiment in Elementary School Classrooms. Austin: Texas Univ., Research and Development Center for Teacher Education, 1981. 317p. Available ERIC. ED 226 452.

The Classroom Management Improvement Study (CMIS) tested the effectiveness of research-based classroom management principles and strategies in elementary school classrooms. Participating in the study were 41 teachers, divided into a treatment group that received a CMIS teacher's manual and participated in two workshops, and a control group. Half of the control group received the CMIS treatment in the middle of the school year to assess the effects of midyear intervention. Results indicated that teachers who received the CMIS treatment at the beginning of school implemented the recommended management strategies significantly more than did the control group teachers. Treatment in the middle of the school year had a limited impact on teachers' behavior. This report provides an overview of the CMIS: its background, treatment design, methodology and instrumentation, analyses of the major hypotheses and research questions, and discussion of the implications of the results for research on management and for teacher training. After the text, two-thirds of the document consists of 15 data tables and 14 appendices that include teacher workshop materials, a list of teacher manual contents, observer guidelines, all instruments, and teacher interview protocols.

**64. Emmer, Edmund T., and others. The Design of the Junior High Management Improvement Study. Austin: Texas Univ., Research and Development Center for Teacher Education, 1981. 124p. Available ERIC. ED 226 451.

This report provides a description of the experimental design, including the procedures, instrumentation, and sample, of the Junior High School Management Improvement Study. The research leading up to this study is briefly described along with the conceptualization of the management function of teaching and the development of training manuals for teachers. The hypotheses to be tested are: junior high school teachers provided with the training manual and participating in workshops at the beginning of the school year will (1) exhibit more effective management behaviors, and (2) achieve better managed classes than will teachers who do not receive the manual or attend the workshops. Participants in the research will be approximately 60 junior high/middle school teachers randomly assigned to treatment or control groups. Six appendices, which comprise over three-fourths of the document, contain a table of contents from the manual, workshop outlines and handouts, teacher questionnaires, and observation instruments and guidelines.

*65. Emmer, Edmund T., and others. Effective Classroom Management at the Beginning of the School Year. Elementary School Journal, v80 n5 p219-31 May 1980.

The major goals of the project reported here were to learn how teachers who are effective managers handle beginning-of-the-year activities and to determine what basic principles of management underlie their teaching. Twenty-seven third-grade teachers in eight elementary schools served as subjects.

**66. Emmer, Edmund T., and others. The First Weeks of Class...And the Rest of the Year. Research and Development Report No. 6005. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, 1979. 29p. Available ERIC. ED 175 861.

Classroom observation of 28 third-grade teachers illustrated the management and planning strategies that differentiate effective teachers from less effective teachers. Effective managers communicated a workable system of rules and procedures, monitored students carefully, and were consistent in treating inappropriate behavior. Less effective managers did not establish their credibility at the outset of the academic year and were unpredictable in both their feedback and discipline techniques. Discipline and organizational procedures were delineated during the first weeks of the school year by the more effective teachers.

**67. Emmer, Edmund T., and others. Organizing and Managing the Junior High Classroom. Austin: Texas Univ., Research and Development Center for Teacher Education, 1982. 157p. Available ERIC. ED 223 564.

This manual provides guidelines and activities for organizing and managing junior high school classes. The first five chapters are devoted to the topic of getting ready for the beginning of the school year; the last four chapters suggest guidelines and activities that are helpful in maintaining a management system. Chapter 1 deals with organizing the classroom and materials before the beginning of school. The topic of chapter 2 is developing a workable set of rules and procedures and planning individual classroom routines. The third chapter discusses the major facets of student accountability, such as work requirements, communicating assignments, monitoring, checking work, and offering academic feedback. In chapter 4, the subject of discipline is dealt with; consequences, penalties, and incentives are discussed. Suggestions are provided in chapter 5 on planning for the first day and week of school. Chapter 6 provides guidelines for maintaining a classroom management system, including monitoring student behavior, handling inappropriate behavior, using consequences consistently, and dealing with special problems. The seventh chapter is devoted to a discussion of instructional clarity. In the eighth chapter, planning and organizing instruction is discussed. The ninth chapter presents recommendations for adjusting instruction for special groups and classes with heterogeneous abilities. In each chapter, summary guidelines are included as well as a teacher checklist, suggested activities, and a narrative case study.

**68. Evertson, Carolyn M. Differences in Instructional Activities in High and Low Achieving Junior High Classes. R&D Report Number 6106. Austin: Texas Univ. Research and Development Center for Teacher Education, 1980. 47p. Available ERIC. ED 195 546.

The teacher's ability to manage the classroom has been consistently associated with pupil achievement and high pupil attitudes. Research has also shown that classes with high proportions of low ability students tend to be more difficult to manage because of the special needs of these students. This paper focuses on the strategies and behaviors apparent in classrooms of teachers who are teaching similar subject matter content to classes of differing ability levels. Two low ability classes were also examined to contrast teacher behaviors which are successful in initiating and maintaining instructional activities. Higher ability classes had teachers who: (1) described and presented objectives and materials more clearly; (2) provided content and reasonable work standards related to student interests and needs; (3) were consistent in dealing with student behavior; (4) were receptive to student input; (5) nurtured affective skills; and (6) maintained a task-oriented focus. Teachers in low ability classes were seen as adapting presentations to ability levels, reinforcing inattentive student behavior, and using more personal conferences to stop misbehaviors. Maintaining student cooperation and attention was harder in the low ability classes. A comparison of the two low achieving classes suggests that there are optimal ways of providing instruction to increase productive learning time.

*69. Evertson, Carolyn M., and Edmund T. Emmer. Effective Management at the Beginning of the School Year in Junior High Classes. Journal of Educational Psychology, v74 n4 p485-98 Aug 1982.

Two groups of junior high teachers were identified as being more or less effective in their classroom management practices. Observational data collected from these teachers in the first three weeks of the year indicate that the beginning of the year is a crucial time for establishing effective classroom management.

70. Evertson, Carolyn M., and Linda M. Anderson. Beginning School. Educational Horizons, v57 n4 p164-68 Sum 1979.

Because the first days of school are considered crucial to the establishment of a well-run classroom, this study observed 28 third-grade classes during the beginning of a term, identifying successful teacher behaviors in making introductions, presenting rules and procedures, monitoring the classroom, and analyzing and regulating student behavior.

**71. Evertson, Carolyn M., and Linda M. Anderson. Beginning School. R&D Report No. 6007. Austin: Texas Univ. Research and Development Center for Teacher Education, 1979. 18p. Available ERIC. ED 178 541.

Differences in management and organizational skills of effective and less effective classroom managers are presented. Findings are drawn from extensive observations of 28 third-grade teachers who were observed from the beginning of the school year. Findings suggest that teachers who are successful managers arrange to prevent problems from occurring and that the establishment of useful routines begins early in the year.

**72. Evertson, Carolyn M., and Linda M. Anderson. Interim Progress Report: The Classroom Organization Study. Correlates of Effective Teaching. Austin: Texas Univ. Research and Development Center for Teacher Education, 1978. 117p. Available ERIC. ED 167 525.

The study described here was designed to answer questions about effective instruction in low socioeconomic status (SES) elementary schools by focusing on classroom organization and management, especially what specific steps are important at the beginning of the year. This progress report details the history of the study, describes data collection activities, and proposes future collaborative activities to follow. Interviews, questionnaires, classroom observation, and student engagement ratings are used to gather and analyze data. Appendices provide examples of: (1) a proposal for the research to be conducted: (2) the handout given to participating teachers to describe the study; (3) outlines and follow-up questions; (4) the manual for student engagement ratings; and (5) guidelines for using component ratings. The purpose was to discover what strategies work best and what mistakes can prevent a smoothly running classroom from developing.

**73. Evertson, Carolyn M., and others. Organizing and Managing the Elementary School Classroom. Austin: Texas Univ., Research and Development Center for Teacher Education, 1981. 138p. Available ERIC. ED 223 570.

This manual was built around eleven "prescriptions" for the successful management of the elementary school classroom. Each section is prefaced by an advisory statement: (1) "readying the classroom" -- classroom space and materials should be ready for the beginning of the school year; (2) "planning rules and procedures" -- behaviors should be defined as acceptable or unacceptable, and a list of classroom rules and procedures should be developed; (3) "consequences" -- consequences of appropriate and inappropriate behavior should be communicated to students; (4) "teaching rules and procedures" -- lesson plans should include rules or procedures, when and how objectives will be taught, and when re-learning or practice will occur; (5) "beginning of school activities" -- activities for the first few days of school should involve all students and maintain a group focus; (6) "strategies for potential problems" -- strategies should be planned to deal with potential problems which could upset the classroom organization and management; (7) "monitoring" -- student behavior should be monitored closely; (8) "stopping inappropriate behavior" -- inappropriate and disruptive behavior should be stopped quickly; (9) "organizing instruction" -- instruction should be organized to provide learning activities at suitable levels for all students; (10) "student accountability" -- procedures that keep children responsible for their work should be developed; and (11) "instructional clarity" -- the presentation of information and the giving of directions should be clear. In each section, a discussion is given of the rationale for the prescription, followed by guidelines for achieving the stated objective, class activities, and a narrative case study.

*74. Fedigan, Larry. Classroom Management and Achievement: A Review of the Literature. Edmonton: Planning and Research, Alberta Education, 1980. 60p.

This report reviews a selection of studies dealing with classroom management and its relationship to achievement. Included are studies by Kounin, Berliner, Anderson, Evertson, Brophy, Walberg and Soar. Studies conducted at the University of Alberta are also described. The author concludes that the complexities revealed in the studies should "act as a brake on the temptation to accept such simple models as "direct instruction" as panaceas for universal application". Suggestions for further research are offered.

*75. Gaddis, R.G. Punishment: A Reaffirmation. Clearing House, v52 n1 p5-6 Sep 1978.

In the best of conceivable worlds, the use of punishment would not be necessary. In the real world of school, however, punishment is sometimes needed. The author provides guidelines for maximizing the positive effects of punishment.

**76. Galluzzo, Gary R. Changing Teacher Performance with Protocols. Paper presented at the annual meeting of the American Educational Research Association, New York, 1982. 15p. Available ERIC. ED 215 973.

This study examined whether selected protocol materials in classroom management, used in inservice courses, would bring about long-term significant changes in teachers' classroom performance. Fifteen teachers participated in the study by taking an inservice course on classroom management and discipline. Two modules of classroom management behaviors were taught. The first module consisted of group alerting behaviors, including questioning techniques, recitation strategy, and alerting non-performers that they may be called upon to recite; the second module demonstrated teacher behaviors that encourage "withitness" in the students, including desisting from off-task behavior, describing desirable behavior, suggesting alternate behavior, and praising non-deviant behavior. For each module, both positive and negative behaviors were introduced to the inservice teachers, and, after completing the overview, the subjects practiced identifying the specific behaviors on transcripts of actual classroom interaction. The group observed a film of a class in which the teacher demonstrated the behaviors in the module. Teachers were asked to identify and label the behaviors as they were used. Following the film, there was a discussion of the behaviors. Teachers were observed in their classrooms immediately following completion of the modules, and two observations were made three and six weeks later. Findings indicated that, while the teachers used newly learned behaviors immediately following the training sessions, long-term changes in behaviors were difficult to determine.

**77. Gehrke, Nathalie J., and others. An Analysis of Teachers' Perceptions of Their School Environment. Paper presented at the annual meeting of the American Association of Colleges for Teacher Education, Houston, 1982. 18p. Available ERIC. ED 213 677.

The relationships between schools' physical environments and the teachers who work in them were explored. Eleven middle school teachers were interviewed about their orientation toward and operation in their schools. They were asked what they thought were their schools' most important features, how they felt about the buildings, what were its good and bad points, and what changes they had made in their classrooms and buildings. Student behavior management arose as the dominant focus of the interviews; curriculum and instruction were nearly ignored. The teachers varied in their level of awareness or sensitivity to the school environment, its effect on them, and their perception of control over it. Adjustments to the classroom setting were uppermost in their minds, while adjustment to the school beyond their own classrooms was perceived as someone else's domain. Most did not indicate that they used the environment or saw its potential as a curriculum variable. In comments about instruction and the school environment, they were most likely to mention the convenience of having a classroom located near the library, a book storage area, or other resource materials. Wall space was seldom used for instructional purposes. Some indicated that they organized furniture to support instructional activities, although the typical arrangement remained straight rows of desks and chairs. Virtually all the teachers volunteered information on their use of the environment to control student behavior. Classroom location had some impact on the teachers' social activities and friendship patterns. It is important that preservice teachers be instructed on the effects and uses of school space.

78. George, Paul S. Discipline, Moral Development, and Levels of Schooling. Educational Forum, v45 n1 p57-67 Nov 1980.

Relates each of Kohlberg's six stages of moral development to the appropriate level of schooling and method of classroom discipline. Concludes that teachers can successfully solve discipline problems by choosing strategies from a stage just beyond the student's level.

**79. Gil, Doron, and Philip S. Heller. Classroom Discipline: Toward a Diagnostic Model Integrating Teacher's Thoughts and Actions. Occasional Paper No. 13. East Lansing: Michigan State Univ. Institute for Research on Teaching, 1978. 15p. Available ERIC. ED 167 514.

> The diagnostic approach is probably the most comprehensive approach to classroom discipline because it is designed to prevent the recurrence of symptoms by discovering and treating the causes of behavior problems. The diagnostic model of discipline presented here interrelates the mental and behavioral processes the teacher undergoes when dealing with a child's disruptive behavior. In conceiving of the teacher as a clinician, the model postulates that diagnostic judgment of the child's problems based upon observable symptoms is prerequisite to appropriately treating the problems. The model provides a conceptual framework that will help teachers develop thoughtful and reasoned solutions to classroom discipline problems.

**80. Goldstein, Jane McCarthy. Managerial Behaviors of Elementary School Teachers and Student On-Task Behavior. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, 1979. 17p. Available ERIC. ED 173 315.

> The classroom management techniques of elementary school teachers were observed to determine their effectiveness in promoting desirable on-task behavior on the part of pupils. Seven approaches to class management were used as a framework for observation -- authoritarian, behavior modification, common sense, group process, instructional emphasis, permissive, and socioemotional relationship between teacher and student. Thirty-five elementary school teachers were observed for two full morning classroom sessions during the second semester of the school year. During each observation period, the observer recorded student on-task behavior and teacher managerial behaviors. Results indicate that the use of group processes and socioemotional climate managerial behaviors are positively related to student on-task behavior, while the use of authoritarian and permissive managerial behaviors are negatively related. A pluralistic approach using behavior modification, group process, and socioemotional climate approaches produced the most satisfactory on-task behaviors in students.

**81. Goldstein, Jane McCarthy, and Wilford A. Weber. Teacher Managerial Behaviors and Student On-Task Behavior. Paper presented at the annual meeting of the Southwest Educational Research Association, Houston, 1979. 17p. Available ERIC. ED 178 484.

> The hypothesis that teacher managerial behavior may have a greater effect than teacher instructional behavior on

ultimate student academic achievement is supported through the explication of seven major approaches to class management. Forms of teacher managerial behavior examined are: (1) authoritarian; (2) behavior modification; (3) common sense; (4) group process; (5) instructional; (6) permissive; and (7) socioemotional climate. The relationship between these seven clusters of teacher behaviors and student on-task behaviors are extended to infer causality between the teacher behaviors and the students' academic achievement levels. A bibliography is appended.

*82. Good, Thomas L., and others. Teaching Mathematics in High and Low SES Classrooms: An Empirical Comparison. Journal of Teacher Education, v29 n5 p85-90 Sep-Oct 1978.

Low income classrooms demand that teachers supervise and monitor students' seatwork actively and control private interactions with students. Praise and a relaxed climate are more important in low than high income settings.

**83. Goss, Sandra Schweighart, and Gary M. Ingersoll. Management of Disruptive and Off-Task Behaviors: Selected Resources. Bibliographies. Washington, D.C.: ERIC Clearinghouse on Teacher Education, 1981. 63p. Available ERIC. ED 200 520.

In this collection of annotated references on the subject of classroom management, preference was given to primary research studies or articles about such research, and, with the exception of a few fundamental articles, is limited to studies published in the last decade. Classroom management is defined as the maintenance of on-task behavior or the discouragement of off-task behavior in the normal classroom. A brief presentation is given of commonalities that emerged in reviewing these references. The following generalities about effective classroom management appeared: (1) smooth transitions from one activity to another; (2) establishment of routine daily tasks; (3) adherence to fair and reasonable rules; (4) clearly stated behavioral expectations; (5) effective monitoring of student behavior; (6) timely and appropriate reaction to disruptions; (7) routines, rules, and procedures established in the first weeks of school; and (8) authoritative, firm control paired with warmth and genuine concern for the well-being of the students. This bibliography is divided into sections on Conceptual and Organizational Studies, Research Studies, and Summaries of Research.

84. Greenwood, Charles R., and others. Standardized Classroom Management Program: Social Validation and Replication Studies in Utah and Oregon. Journal of Applied Behavior Analysis, v12 n2 p235-53 Sum 1979.

A comprehensive validation study involving 50 regular primary classes was conducted of the Program for Academic Survival

Skills (PASS), a consultant based, teacher mediated program for student classroom behavior.

**85. Hair, Helen, and others. Developing Internal Structure in Elementary School Students. A System of Classroom Management and Class Control. Baton Rouge: Louisiana State Univ., 1980. 22p. Available ERIC. ED 189 067.

A report is given of a three year project in which a system of classroom management designed to develop the ability of elementary school children to function at their maximum capacity in the classroom was implemented and tested. Great emphasis was placed on the use of motivational strategies, reinforcement techniques, involvement of students in classroom management, established routines, and a sound working relationship between teacher and students. Excerpts from the manual used by teachers participating in the project and tables displaying student improvement over the three year period are included in the report.

**86. Harvey, Karen D. Classroom Management: An Annotated Bibliography. 1980. 32p. Available ERIC. ED 198 075.

This annotated bibliography cites reference materials that will assist the classroom teacher in conceptualizing a comprehensive approach to classroom management. The first section contains references related to the diagnosis of learning styles, teaching skills, individualized instruction, cooperative learning strategies, mainstreaming, teaching students from diverse cultural backgrounds, and the unique problems of the urban school. The second section has two parts. The first deals with cognitive, moral, social, and physical development, and the second part deals with behavior management. The final section concerns creating a physical environment which is conducive to learning, maintaining comprehensive and appropriate records, and handling noninstructional responsibilities.

**87. Henderson, Carlesta. Musical Accountability: The Measurement of Music Teacher Behaviors. Accentuating the Positive. 1974. 10p. Available ERIC. ED 171 638.

Addressing the need for effective teaching and accountability in music instruction, this document describes a study of an inservice project to train teachers in the use of consistent verbal and nonverbal behaviors. The project involved 27 music teachers in the inner city, multiracial community of East Harlem in New York City. The workshop sessions included a discussion of classroom management techniques; procedures for using the measurement instrument; and the observation, identification, and evaluation of specific teacher performances in classroom activities. Pre- and post-training classroom sessions were videotaped.

Results indicated that after training, teachers became more aware of their behaviors in relation to classroom interaction. Workshop participants were able to pinpoint areas of academic and social teaching inconsistencies and were able to take steps to correct them. Those teachers who maintained the greatest percentage of consistency found that classroom disruptiveness was reduced and more attention was paid to academics. The use of videotapes was considered valuable in that teachers were able to identify their own behaviors.

*88. Hett, Geoffrey G. Two Types of Behavior Management Programs and Their Effects upon Student Achievement. Canadian Journal of Education, v6 n1 p32-41 1981.

Summarizes the immediate and long-range effects of two classroom treatment programs on the academic achievement and nonattending behaviors of elementary school boys. Compares the teacher-training method and the direct intervention method of implementing management strategies in regular classroom settings.

*89. Hiebert, Bryan, and Steve Carlyle. A Time-paying Program for Disruptive Classes. School Guidance Worker, v37 n3 p31-34 Jan-Feb 1982.

Describes a class contingency management program designed to increase class on-task behavior and cooperation while decreasing class disruptiveness, peer denigration, complaining, and interference with teacher instruction. Results indicated the program accomplished immediate and rapid increases in disruption-free instructional time.

**90. Hinely, Reg, and Gerald Ponder. A Study of the Development of Classroom Routines and Academic Performance Expectations in Three Tenth Grade Classrooms. Paper presented at the annual meeting of the American Association of Colleges for Teacher Education, Dallas, 1981. 19p. Available ERIC. ED 200 534.

The purpose of this study was to determine the ways in which three tenth grade English teachers in a suburban school district established procedural and academic routines. Two classes of each teacher were videotaped for the first ten days of the school year. The teachers were selected because they taught students of comparable ability, and because they were confident enough of their own abilities that they would not be threatened by extensive observation. Thirteen categories of behavior were derived and used to compare the teachers, particularly in the following areas: (1) teachers' procedural statements; (2) teachers's statements concerning student behavior; (3) desists; and (4) student questions concerning procedure. Significant variance was found between the teachers, which could be explained by the differences in the kinds of learning activities used (lecture, seat-work, use of an overhead projector, and groupwork). However, analyses of the videotapes suggest that a major factor in the variance was the student expectation of the consequences of behavior that deviated from the prescribed routine. This was clearly seen in the way each teacher dealt with unauthorized talking. The conclusion is that teacher behavior during the first few class days has profound effect during later sessions.

91. Horne, S.E. Classroom Management. British Journal of Teacher Education, v6 n3 p228-35 Oct 1980.

Classroom management is a collection of measures by which teachers control the events of a lesson. Research suggests that social behaviors can be learned in the same way as cognitive rules.

*92. Irving, Olwyn, and Jack Martin. Withitness: The Confusing Variable. American Educational Research Journal, v19 n2 p313-19 Sum 1982.

A partial replication of Kounin's research findings with respect to teacher "withitness" in classroom management is described, and discrepancies between Kounin's findings and those of this partial replication study are noted. Inconsistencies in Kounin's theoretical and methodological/operational definitions of "withitness" are proposed as possible sources of the discrepancies.

93. Kerry, Trevor. Teachers' Class Management Problems with Bright Pupils. Exceptional Child, v28 n3 p199-204 Nov 1981.

Responses by 100 primary and secondary teachers on behavior and management problems of bright pupils suggested that while bright pupils are generally well behaved, those problems which do arise are often related to insufficient stimulation. Suggestions on effective management are provided.

**94. Kohut, Sylvester, Jr., and Dale G. Range. Classroom Discipline: Case Studies and Viewpoints. Washington, D.C.: National Education Association, 1979. 113p. Available ERIC. ED 163 666. Microfiche only.

This guide is designed for both preservice and inservice teachers concerned about classroom management and discipline as they relate to learning. The case studies and illustrations included are actual real-life situations observed, recorded, documented, and contributed by teachers, administrators, and paraprofessionals throughout the country in kindergarten through senior high school. The case studies represent problems and issues common to urban, suburban, and rural school districts and school personnel. Possible solutions to problems are offered, although no single best course of action is insisted upon. Theory and research findings that relate to classroom discipline are also included. The basic purpose of the text is to provide a practical guide for understanding and improving classroom communication in order to improve discipline.

**95. Korth, Willard, and Catherine Cornbleth. Classroom Activities as Settings for Cognitive Learning Opportunity and Instruction. Paper presented at the Annual Meeting of the American Educational Research Association, New York, 1982. 35p. Available ERIC. ED 220 532.

The nature of classroom activities, cognitive learning opportunities, and instruction in seventh and eighth grades within the academic subject areas was examined. The purpose was to describe and interpret classroom learning opportunities in terms compatible with the complexity of typical classroom events and teachers' understanding of those events. Twelve English, science, and social studies teachers and 550 students from 3 northeastern seventh and eighth grade suburban schools participated in the study. Each classroom was observed 4 times by a project team member for a total of 92 observations. During each observation, the following information was recorded: (1) the nature and duration of academic activities; (2) the type of academic tasks students were expected to accomplish during each activity; and (3) the nature of any cognitive instruction provided. On the basis of observers' descriptive data, multivariate analysis revealed significant subject area differences in academic activity time and in task type. Data analyses did not reveal significant differences between grade levels or perceived class abilities. If cognitive instruction is to be provided to help students take advantage of cognitive learning opportunities embedded within classroom activities, it seems important not only to increase teachers' awareness and knowledge about cognitive tasks and instruction but to offer workable strategies compatible with teacher perspectives and classroom management constraints.

*96. Kounin, Jacob S. Discipline and Group Management in Classrooms. New York: Holt, Rinehart and Winston, 1970. 178 p.

The first part of this book describes a series of experiments and field studies directed toward ascertaining whether a teacher's technique of handling a misbehaviour makes any difference in how students who are audience to this event react. Following these studies, the author concluded that the teacher's particular "desist" technique had no relationship to children's behaviour. What was far more important was the general way the teacher managed the classroom. The remainder of the book is then devoted to consideration of studies directed toward determining what teacher behaviours are associated with high task involvement and limited disruption. The behaviours identified as significant included: (1) Withitness and overlapping. These dimensions dealt with the teacher's ability to communicate awareness of what was taking place throughout the classroom and to deal with two separate events simultaneously; (2) Smoothness and momentum. These variables dealt with how the teacher managed movement during recitations and at transition periods; (3) Group alerting and accountability. These aspects of technique dealt with the extent to which the teacher maintained a group focus during recitations, in contrast to becoming immersed in a single child; (4) Valence and challenge arousal. These techniques included measures to avoid excessive repetition (and consequent loss of interest in an activity) and to enhance the attraction of the classroom activities; and (5) Seatwork variety and challenge. This set of variables dealt with the teacher's choices of materials and activities for seatwork.

*97. Lasley, Thomas J. Research Perspectives on Classroom Management. Journal of Teacher Education, v32 n2 p14-17 Mar-Apr 1981.

An inductive analysis of studies on discipline reveal four characteristics of effective classroom management. Preservice teachers should be able to: (1) develop a workable set of rules; (2) respond consistently to inappropriate behavior; (3) structure activities to minimize disruption; and (4) respond to, but not denigrate, the disruptive student.

**98. Lavergne, Frances Ann. The Development and Testing of a Systematic Observation Instrument with a Focus on Academic Disruption in the Classroom (SOBAD). Paper presented at the annual meeting of the Southwest Educational Research Association, Dallas, 1981. 10p. Available ERIC. ED 199 236.

A system of identifying teacher and student interactions as they relate to discipline problems was developed and validated as a method of resolving disruptive classroom behavior. SOBAD (Systematic Observation of Behavior with a Focus on Academic Disruptions) involves the use of trained observers who code and record student and teacher interactions according to ten validated behavior categories: (1) transition; (2) teacher or student instructional activity; (3) noninstructional student talk; (4) noninstructional student action; (5) confusion; (6) disruption of academic mode not initiated by teacher or student; (7) criticism; (8) unnoticed disruptive behavior; redirection; and (10) praising nonacademic behavior. A twenty hour training program for three trainees tested the reliability of the system. It is suggested that the SOBAD system be discussed in teacher or administrator inservice training and in teacher preparation programs. Appendices include a list of the ten behavior categories, an example of SOBAD data obtained during a typical classroom observation, and information concerning SOBAD workshops.

99. LeCompte, Margaret D. Establishing a Workplace: Teacher Control in the Classroom. Education and Urban Society, v11 n1 p87-106 Nov 1978.

This study of teacher behavior in four classrooms reveals that, in the dimension of management, teachers looked rather alike. Where differences did exist, they seemed to be determined by the individual personality and philosophy of the teacher rather than by institutional contraints, which dictated the management core.

100. Leyser, Yona, and Antoinette Heinze. Training Teachers for Mainstreaming: An Inservice Model for Developing Behavior Management Skills. Teacher Educator, v16 n2 p30-37 Fall 1980.

One of the competencies needed by teachers working with mainstreamed handicapped students is behavior management. The inservice system offers excellent opportunities for providing teachers with continued updating of their professional skills.

**101. Licata, Joseph W., and James R. Wildes. Dimensions of Robustness in Classroom Organization. 1979. 42p. Available ERIC. ED 180 703.

Upon identification of the environmental robustness (social interaction) perceived by students and teachers in 6 classrooms in a predominantly black 185 pupil rural secondary school in Georgia, this field study describes and contrasts the structural features of classrooms as a means of producing an improved operational understanding of classroom robustness. Characteristics identified in high robustness classrooms include spontaneous student involvement in tasks; the teacher as a dynamic focal point for the class; informal classroom atmosphere; teachers who tend to be humanistic, flexible, relaxed, and confident. The Learning Environment Inventory (robustness relationships derived from analysis of variance) suggests that as classroom robustness increases, classroom organization involves less formal rules and regulations, a pace of work which is comfortable for students, just and universal application of student privileges, subject matter well within the ability levels of students, student satisfaction about tasks, clear objectives for student work, and sufficient flexibility in structure to allow for cliqueness. These findings support the central hypothesis: that environmental robustness is inversely related to organization routinization. The atypical sample school suggests caution in generalizing these findings to other classroom settings.

**102. Lockavitch, Joseph F., Jr. Seating Arrangement and Classroom Behavior: A Simple but Sometimes Overlooked Method for Classroom Control. 1979. 15p. Available ERIC. ED 179 014.

This paper discusses the importance of environmental factors--namely, classroom seating--to classroom management. A specific incident is discussed, whereby disruptive behavior developed in students because of the spatial separation of their desks from the teacher's desk. Solutions to the seating problem are offered in the text and in figures drawn for use by the reader. The paper concludes that effective use of the environment can greatly assist teachers in keeping their classes under control.

**103. MacNaughton, Robert, and Frank Johns. Help is on the Way: An Active Approach to Assisting Teachers with Management and Discipline Procedures. Paper presented at the National Conference of the Association of Teacher Educators, Dallas, 1981. 8p. Available ERIC. ED 202 833.

The Center for Productive School and Classroom Discipline at Cleveland State University was created to bring together the disparate and disorganized theories of classroom management and to provide assistence to teachers with persistent classroom control problems by developing teacher competencies. The Center has four objectives: (1) to provide information by offering graduate credit courses and presentations, publishing a newsletter, and maintaining a hotline for specific discipline problems; (2) to collect, classify, and evaluate all information on classroom discipline; (3) to design and develop materials; and (4) to provide a consulting service for local teachers. The instructional units that the Center offers concentrate on short-range procedures that are based on four theories: behavior modification, socio-emotional, group process, and management concepts. Between fifteen and twenty teachers and administrators work for the Center, making presentations, publishing the newsletter, acting as hotline consultants, and producing a multi-media management and discipline package.

*104. McDaniel, Thomas R. How to Be an Effective Authoritarian: A Back-to-Basics Approach to Classroom Discipline. Clearing House, v55 n6 p245-47 Feb 1982.

Argues that effective authoritarians establish their authority in the classroom only so that eventually they can relinquish it to students, who must learn to become responsible citizens of school and society. Offers three principles for promoting good classroom discipline.

**105. Meehan, Merrill L. Evaluation of the Stallings Classroom Management Staff Development Demonstration Project in Putnam

County, West Virginia. Charleston, W. Va.: Appalachia Educational Lab., 1981. 95p. Available ERIC. ED 225 977.

An evaluation is presented of the Stallings Classroom Management Staff Development Demonstration Project, designed to increase student achievement in basic skills through the use of research-based, systematic change in teachers' classroom management and organizational techniques. One objective of the evaluation was to utilize techniques and to administer a set of instruments to assess their utility for future evaluations. Process evaluation methods focused on teachers' feelings about the demonstration project, their concerns about the innovations, and evaluative comments made by involved teachers at the project's conclusion. Product evaluation focused on the pre-/post-test changes in teachers' perceived responsibility for student achievement, ratings on the teachers' levels of use of the innovation, and the teachers' pre-/post-test intervention changes in "correct implementation" of specific classroom teaching behaviors. Following an executive summary of the project, chapter 2 of this report outlines the purpose and objectives of the staff development program. Chapter 3 describes the evaluation design, the data collection instruments, and the data collection and analysis procedures of the evaluation. Process and product evaluation results are presented in the fourth and fifth chapters. Data displays and narrative copy are used to clarify evaluation results. The sixth chapter presents conclusions and recommendations based on the evaluation study.

**106. Mergendoller, John R., and others. An Exploration of Elementary Students' Perceptions of Classroom Rules and Teacher Authority at a Successful School. Verification Inquiry, Volume V. Ecological Perspectives for Successful Schooling Practice. San Francisco: Far West Lab. for Educational Research and Development, 1981. 60p. Available ERIC. ED 230 499.

This document reports on an inquiry into elementary school students' perceptions of important classroom rules and of the teacher's authority. Chapter 1 provides an overview to this verification inquiry, part of a larger study, Ecological Perspectives for Successful Schooling Practice. The next chapter reports on the findings on children's social-cognitive understanding of rules and authority. Students' perceptions of rules are analyzed by individual classroom and across classrooms, and students' perceptions of teacher authority are studied and reported on in two phases. Chapter 3 presents information on study participants (75 elementary school students), data collection methodology (interviews and questioning techniques), and analysis of data on rules and authority. A list of references is included, along with 18 tables presenting study data.

107. Metz, Mary Haywood. Clashes in the Classroom: The Importance of Norms for Authority. Education and Urban Society, v11 n1 p13-47 Nov 1978.

After a discussion of the literature on the nature of authority, the character of authority between teacher and student within the classrooms in four desegregated junior high schools is explored.

*108. Multhauf, Arleen P., and others. Teacher Pupil-Control Ideology and Behavior and Classroom Environmental Robustness. Elementary School Journal, v79 n1 p40-46 Sep 1978.

Examines teachers' beliefs and behavior regarding pupil control and their impact on fourth, fifth, and sixth grade students' perceptions of classroom life. Research indicates that humanistic teacher pupil-control behavior is associated with students' reports of high classroom robustness. Inconsistencies between male ideology and behavior are discussed.

**109. National Education Association. Management of Disruptive Surface Behavior: Prescriptive Learning Package 5. Description of Teacher Inservice Education Materials. 1977. 8p. Available ERIC. ED 164 536.

A prescriptive learning package for inservice teacher education is described. The package seeks to aid the teacher in developing and implementing individualized intervention techniques suitable for children whose learning situations result in disruptive behavior; knowledge and applications of terms and principles of behavior management are highlighted. Information is provided on the purposes and content of the package, activities and resources necessary for implementation, history of development, and ordering information. A critique is also provided.

**110. National Education Association. Teaching 1: Classroom Management. Description of Teacher Inservice Education Materials. 1977. 8p. Available ERIC. ED 164 538.

A description of an inservice teacher education learning module is provided. The module focuses on systematic principles of behavior modification, and emphasizes the procedures underlying effective social development and the use of positive motivational methods with children and young adults. Information is provided on the purposes and content of the module, as well as the activities and resources necessary for its implementation. A history of module development, a critique, and ordering information are also included.

CLASSROOM MANAGEMENT

**111. National Education Association, Project on Utilization of Inservice Education R & D Outcomes. The L.E.A.S.T. Approach to Classroom Discipline. Description of Teacher Inservice Education Materials. 1978. 8p. Available ERIC. ED 166 143.

The inservice teacher education program described here focuses on a system of employing minimum action in order to attain and maintain effective classroom discipline, and offers a survival strategy for the classroom teacher. The product title is an acronym for the five steps or options outlined for achieving classroom discipline: (1) leave things alone because no problems are likely to occur; (2) end the action indirectly because behavior is disrupting the classroom; (3) attend more fully because more information or communication is needed; (4) spell out directions because disruption or harm will occur; and (5) track student progress to evaluate and reinforce student behavior. Information is provided concerning program purposes, content, activities, resources, and history of development. A critique and ordering information are also included.

**112. National Education Association. Project on Utilization of Inservice Education R & D Outcomes. Project TEACH (Teacher Effectiveness and Classroom Handling). Description of Teacher Inservice Education Materials. 1978. 8p. Available ERIC. ED 167 527.

The teacher program described here focuses on options for dealing positively with the day-to-day problems and occurrences in the classroom and reducing psychic and physical drain on the teacher. Emphasis is on positive management and relational skills, i.e., verbal skills, momentum building and nonconfrontation strategies, and decision-making techniques. Information is provided here on the purposes and content of the program and materials, as well as activities and resources involved. A critique, history of development, and ordering information are also included.

**113. National Education Association. Project on Utilization of Inservice Education R & D Outcomes. Protocol Modules on Classroom Management (Overview). Description of Teacher Inservice Education Materials. 1977. 8p. Available ERIC. ED 167 546.

The learning module described here focuses on classroom management. It is for the use of both preservice and inservice teachers. The primary focus of the modules is on increasing understanding of students, with the object of increasing teacher effectiveness in class management. Basic teaching skills and behaviors are covered. A critique of the protocol materials used in this module is provided as well as ordering information for materials used.

**114. National School Boards Association. Student Discipline: Practical Approaches. 1979. 34p. Available ERIC. ED 177 691. Microfiche only.

This report covers trends in discipline policies and policy-making and alternative and innovative school programs designed to diminish behavioral problems in the classroom. The programs range from improvements in a school's physical plant to specific action plans for teachers and options in the curriculum designed to stimulate alienated students. Some of the programs are preventive; others serve as intervention measures. But characteristic of each is an emphasis on identifying and dealing with the root problem, rather than symptoms of the problem. The programs presented are intended as frameworks from which a school system may build a program based on its own resources and needs. The appendix offers sample discipline policies from three different school districts.

**115. Ogletree, Earl. Classroom Management and the Socially Disadvantaged. 9p. Available ERIC. ED 183 646. Microfiche only.

Because of their deficits in academic attainments and different cultural styles, socially disadvantaged children create more potential than other children for classroom management problems. To improve classroom management, teachers should maintain a clean room and train their students to enter that room in an orderly fashion. In dealing with their students, teachers should learn their names, be impartial, be clear in their instructions, require their students to be accountable in their homework assignments, and aim at full class participation. In the matter of discipline, the effective teacher, always taking note of undercurrents of behavior and employing high interest activities to maintain order, will develop a rapport with students characterized by friendliness, flexibility, and consistency with discipline. The good teacher, eschewing threats and the temptation to frequently call in outside help, will work with individual offenders and will avoid taking misbehavior personally.

116. Ohanian, Susan. There's Only One True Technique for Good Discipline. Learning, v11 n1 p16-19 Aug 1982.

A teacher draws upon personal experiences to argue that successful classroom discipline is the product of teaching competence and style rather than the result of behaviorist classroom management techniques. Emphasis is on keeping children involved in learning activities.

**117. Otto, Wayne. Organization and Administration in the Classroom for Reading. Paper presented at the annual meeting of the Reading Institute, Philadelphia, 1981. 32p. Available ERIC. ED 198 511.

Focusing on managing reading instruction related to the range of differences in the classroom, this paper includes a historical review of managing instruction beginning with examples from the 1800s. It offers a selective review of the literature on managing reading instruction and explores the following: (1) studies of organizational plans such as homogeneous and heterogeneous grouping, various schemes for assigning students to teachers, alternatives for organizing the curriculum, and specific plans for organizing the classroom; (2) studies of classroom behaviors including management effectiveness and descriptions of classroom interactions; and (3) studies of teachers' decision making. A final section contains some conclusions and directions for further study and notes that with regard to present practice, the optimum or universally effective strategy for managing instruction has not been devised and that there may never be a universally effective scheme for all students. Shortcomings in the research on managing instruction and directions for further study are discussed.

**118. Pattavina, Paul, and Ramiro R. Ramirez. Generic Affective Teaching Competencies, and Personal Efficacy Needs of Hispanic Students in Public Schools. Paper presented at the Council for Exceptional Children Conference on the Exceptional Bilingual Child, New Orleans, 1981. 27p. Available ERIC. ED 207 291.

A competency based model of affective teaching is proposed for training teachers of students with Hispanic background in the southwestern United States. The GAC (generic affective competencies) model is described in terms of the adjustment needs of Hispanics in public school. Three competency clusters are outlined: creating the affective climate; managing conflicts, crises, and the classroom; and using positive classroom management practices. A brief study report confirms the validity of the GAC procedures. It is concluded that the GAC model is potentially significant in such areas as motivating students to achieve, rewarding students for correct responses and adaptive behavior, and modeling optional ways of coping with stress and managing social problems.

**119. Patton, Gregory D. Developing Student Discipline Models for Vocational Classroom Usage: A Theoretical Basis. Montreal, Que.: McGill University, Faculty of Education, 1981. 90p. Available ERIC. ED 216 163.

In order to establish a theoretical basis for the development of a classroom discipline model that could be used by secondary vocational teachers, a study investigated the problems experienced by vocational teachers in maintaining classroom discipline, the causes of such discipline problems, and techniques used to rectify classroom discipline problems. In addition, the study analyzed and synthesized the underlying principles of various disciplinary techniques to develop a structural framework as the basis of related formal instruction for vocational teachers. Study findings were based on data obtained from informal interviews and questionnaires administered to 73 post-certification level students enrolled at McGill University. According to those surveyed, student inattentiveness, lack of student responsibility, excessive talking, and student aggression toward teachers are the major discipline problems arising in secondary vocational classrooms. The survey isolated 50 different causes underlying these problems. Based on the synthesis of those discipline strategies found to be effective by respondents, a model was designed for use by teachers in developing effective disciplinary skills. Key features of the model include an objective classroom monitor, a process referred to as monitoring, establishment of specific inservice training seminars, and trained followup specialists.

**120. Pittman, Sherry I. A Cognitive Ethnography and Quantification of a First Grade Teacher's Selections of Strategies to Manage Students. Paper presented at the Annual Meeting of the Southwest Educational Research Association, Houston, Texas, 1983. 39p. Available ERIC. ED 225 967.

Results of an ethnographic study indicate that one elementary school teacher's management plan reflects interaction between teaching goals, strategies which are hierarchically arranged, and the selection criteria she considers relevant. Selection criteria include teacher beliefs about the student's personality, the student's level of required supervision, the relative intentionality and disruptiveness of the student's behavior, if the student's behavior is isolated or repeated, and if the student's behavior is improving. Once all the possibilities for action are considered, a repertoire of management strategies is produced reflecting the teacher's goals and beliefs. A technique for testing the data indicates an accuracy rate of 92 percent for predicting the teacher's selections of management strategies during another school year. Results suggest that, if a teacher has a plan in mind, it is possible to select management strategies during interactive teaching with student outcomes in mind.

**121. Rohrkemper, Mary M., and Jere E. Brophy. Classroom Strategy Study: Investigating Teacher Strategies with Problem Students. Research Series No. 50. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, 1979. 15p. Available ERIC. ED 175 857.

A methodology for conducting research on managing the disruptive student based on identifying successful teacher strategies is described. The subjects of this study were teachers selected as being outstanding or average in their ability to cope with behavior problems. Data collection included two half-day classroom observations, a structured interview in which each teacher responded to a series of written vignettes depicting student behavior problems, and an open-ended interview in which the teacher discussed general strategies for dealing with each of 12 types of problem behaviors. Preliminary analyses of the data indicated that student disobedience and disruptive behavior provoke more intense and less effective teacher responses than do instructional problems. Also significant differences and responses to problems seem to favor teachers who view themselves as both instructors and socializers over those who view themselves as just instructors.

**122. Rohrkemper, Mary M., and Jere E. Brophy. Influence of Teacher Role Definition on Strategies for Coping With Problem Students. Research Series No. 51. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, 1979. 27p. Available ERIC. ED 179 522.

An investigation concerned with teacher styles and strategies for coping with problem students suggests that role definition may not be as important a teacher variable as originally postulated. Thirty-seven experienced elementary school teachers were observed to determine overall management skill level and actual response to problem behavior. Teachers were divided into two role orientations: one group stressed the instructional role and the other the socializational role. Following observation, teachers responded to a series of written vignettes depicting 12 types of problem student behavior. While both teacher role emphasis and ability did affect teacher responses, the most powerful factor was the type of student behavior depicted. The research suggests that socialization problems (disobedience or disruption) provoke more intense and less effective teacher responses than do instructional problems.

**123. Rohrkemper, Mary M., and Jere E. Brophy. Teachers' General Strategies for Dealing with Problem Students. Research Series No. 87. Paper presented at the annual meeting of the American Educational Research Association, Boston, 1980. 34p. Available ERIC. ED 196 886.

Elementary teachers' responses to vignettes depicting twelve types of student problem behavior (instructional concerns: failure syndrome, perfectionist, underachiever, and low achiever; aggression problems: hostile aggressive, passive aggressive, and defiant; activity issues: short attention span, hyperactive, and immature; and peer relation difficulties: shy/withdrawn and rejected by peers) were analyzed for points of agreement across the twelve types of problem behavior concerning problem-solving strategies that involved rewards, punishments, supportive behaviors, and threatening/pressuring behaviors. Subanalyses were conducted to identify distinctions between teachers who differed by school location, grade level, teacher role perception (primarily instructor vs. primarily socializer), and management expertise (outstanding vs. average). In general, teachers' responses to the vignettes involved more punishment than reward, and supportive behavior more than threatening or pressuring behavior.

**124. Rosner, Frieda C. The Future of Teaching as a Profession: Assessing Classroom Management Skills. Paper presented at the Annual Meeting of the American Association of Colleges for Teacher Education, Detroit, 1983. 15p. Available ERIC. ED 228 165.

The initial phase of the National Teacher Examination classroom management test for entry level teachers has been completed. Two systematic reviews of the literature on classroom techniques resulted in the identification and description of a wide range of managerial strategies -- authoritarian, behavior modification, permissive, intimidation. Also identified were the content domains of effective classroom management -- teacher characteristics, rules, systems, and teacher behaviors for increasing student engagement. Drawing upon the findings of these extensive literature reviews, a conceptual framework has been developed containing guidelines for the development of the test based on a series of assumptions on the nature, extent, and goals of the test. The content of the test will be derived from three sources: empirical research in classrooms, well-grounded theory and nonclassroom research, and accepted classroom practice. A variety of formats for the test are currently under consideration. Appended to this report are outlines of managerial strategies and content domains in classroom management identified by the literature reviews.

**125. Rounds, Thomas S., and others. An Analysis of Teachers' Rule Systems at a Successful School. Verification Inquiry, Volume IV. Ecological Perspectives for Successful Schooling Practice. San Francisco: Far West Lab. for Educational Research and Development, 1981. 113p. Available ERIC. ED 230 498.

Reported on is an analysis of rule systems established in successful elementary school classrooms. The report's first chapter provides an introduction to this verification inquiry, part of a larger study, Ecological Perspectives for Successful Schooling Practice. In chapter 2, the sample, methodology, and data analysis procedures used in the rules analysis are described. The 11 classrooms, and the teachers and students in them, from the elementary school studied are described. Also discussed are data collection procedures, including narrative descriptions and classroom observations. Data analysis methodology, including identification of rules in each classroom, classification of rules, and consonance of rules across classrooms, is detailed. The third chapter discusses the nature of the rules found as a result of the study, and an analysis of rules across the classrooms is included. An analysis of rules within categories covers classroom regulations in the following areas: procedural, academic, talking and noise, mobility, ethical, school-imposed, and miscellaneous. Conclusions regarding the findings are drawn in the fourth chapter. References are included along with two appendices which present instructions to teachers for coding classroom rules and charts of teachers' rules.

*126. Sandeman, M.G., and T.F. McLaughlin. Reduction of Inappropriate Behavior with Primary Mentally Handicapped Children Using Teacher Praise, Ignoring, and Parental Consequences. B. C. Journal of Special Education, v6 n4 p343-50 Win 1982.

The effects of teacher praise, ignoring, time-out, and parental contingencies on the number of inappropriate behaviors of two mentally handicapped (IQ's 55 and 51) male students ages seven and nine were investigated in a one-year study. Both students reduced inappropriate noise and behavior, and the frequency of inappropriate behavior remained low.

**127. Sanford, Julie P. Comparison of Heterogeneous and Homogeneous Junior High Classes. R&D Report No. 6108. Austin: Texas Univ. Research and Development Center for Teacher Education, 1980. 80p. Available ERIC. ED 196 862.

Many secondary teachers perceive a wide range of student ability levels within a class as a constraint on effective teaching and classroom management. This study was conducted to determine which levels of teaching effectiveness, which learning environments, and which classroom management problems were associated with very heterogeneous classes, and to examine the characteristics of these classes as opposed to more homogeneous classes. Data were collected by classroom observation, teacher interviews, and case studies in eleven junior high schools. Five general findings are reported: (1) Increased heterogeneity of students' entering academic levels limits the extent to which teachers can successfully adapt instruction to meet the needs of individual students; (2) Teachers in extremely heterogeneous classes may be less able to meet the needs of individual students; (3) Extreme class heterogeneity is associated with a lessened degree of task engagement and student cooperation; (4) Achievement gains of lower ability students may tend to be lower in heterogeneous classes; and (5) Classroom observation and teacher reports indicate that teachers must use diverse strategies to cope with extremely heterogeneous classes. A warning is issued that extremely heterogeneous classes place extraordinary demands on teachers' time, attention, and classroom management skills.

*128. Sanford, Julie P., and Carolyn M. Evertson. Beginning the School Year at a Low SES Junior High: Three Case Studies. R&D Report Number 6104. Austin: Texas Univ. Research and Development Center for Teacher Education, 1980. 38p. Available ERIC. ED 195 547.

Teachers in low socioeconomic status minority schools face some special problems in establishing productive learning climates within their classrooms. The beginning of the school year can be crucial to teaching success in these schools. Case studies are presented of three different teachers teaching in a single low socioeconomic, minority junior high. Comparison is made of classroom activities, organizational strategies, and student behavior in the classrooms of three teachers of varying managerial effectiveness. Concrete illustrations are provided of some beginning-of-school teaching strategies which appear to work in such a setting. The teachers were observed in the opening days of school and six times throughout the year. It was concluded from these observations that what teachers do to establish a productive classroom climate and to orient students in the first few days of school is an important determinant of classroom management and teaching success in junior high school. However, without continuing, consistent enforcement of the rules and behavior standards set in the first days, a productive classroom climate may deteriorate rapidly.

*129. Sanford, Julie P., and Carolyn M. Evertson. Classroom Management in a Low SES Junior High: Three Case Studies. Journal of Teacher Education, v32 n1 p34-38 Jan-Feb 1981.

To find out how junior high teachers establish and maintain effective classroom management, the Junior High Classroom Organization Study (JHCOS) was conducted. The observations made during the study support the commonly held beliefs that teachers in low socioeconomic status minority schools face special problems in establishing productive classroom climates.

**130. Sanford, Julie P., and others. Communicating Results of Classroom Management Research to Practitioners. Classroom Organization and Effective Teaching. Austin: Texas Univ. Research and Development Center for Teacher Education, 1981. 95p. Available ERIC. ED 204 284.

Descriptions are given of recent dissemination and collaboration efforts of the Classroom Organization and Effective Teaching (COET) Project, which is a program of the University of Texas (Austin) Research and Development Center for Teacher Education. A brief review of COET research findings is provided, and materials and activities that can be used directly in teacher inservice activities are offered. The first section consists of an overview of the COET Project's classroom management studies, including a current experimental study of 41 elementary classes in a newly desegregated setting. The second section presents some general recommendations for organizing research-based workshops on classroom management based on the COET Project experiences. In the third section, materials and guidelines for teacher workshop activities on classroom management and organization are offered, along with directions for conducting each activity. The workshop activities include: (1) introducing COET studies of classroom management; (2) evaluating classroom arrangements; (3) discussing guidelines for classroom rules and procedures; (4) small group discussion of procedural problems; (5) sharing rules, rewards, and penalties; (6) case studies of teaching procedures; (7) videotaping of the first day of school; (8) planning activities for the first day of school; (9) discussing guidelines for managing student behavior; (10) small group problem discussions; (11) introducing guidelines for maintaining student accountability; and (12) sharing accountability procedures. Appended are copies of handouts to be used with the suggested activities and a compilation of evaluations obtained from different COET Project presentations and workshops.

*131. Sanford, Julie P., and others. Improving Classroom Management. Educational Leadership, v40 n7 p56-60 Apr 1983.

Research suggests ways administrators and staff developers can help teachers with the important task of organizing and managing classrooms.

**132. Shapiro, Edythe R. Influence of Addressee and Activity on Kindergarten Teachers' Directives. Paper presented at the annual convention of the American Psychological Association, New York, 1979. 20p. Available ERIC. ED 182 648.

Kindergarten teachers' directives uttered during the first month of school were compared with those uttered three months later. It was expected that changes associated with different classroom organizational structures, with increasing child sophistication, and with size of group being addressed, would influence the type and clarity of teacher directive. Two one-hour observations were held in each of three kindergarten classrooms in September and again in December. Teacher directives became fewer in number and less direct, but remained clear. Structured lessons increased as did directives to small groups. Directives varied in systematic ways.

*133. Sherman, Thomas M. Effective Management of Instruction in the Classroom. Educational Technology, v21 n8 p20-27 Aug 1981.

Describes the advantages of an ecological and active approach to classroom management, presents an analysis of how such an approach might be developed, and discusses several issues which need to be addressed in order to improve classroom management. Twenty-nine references are listed.

**134. Smith, Douglas K. A Study of Contrasting Styles of Teacher Behavior. Paper presented at the annual convention of the Southeastern Psychological Association, Atlanta, 1978. 20p. Available ERIC. ED 178 785.

Classroom behavior of elementary level teachers who display contrasting styles of socialization was analyzed. The Classroom Management Questionnaire, an instrument designed to measure socialization style as derived from Aronfreed's Induction-Sensitization Paradigm, was administered to a sample of elementary teachers. Those scoring one standard deviation above or below the mean were selected for classroom observation using the Flanders Interaction Analysis Categories System. The two groups displayed significantly different teacher-student interaction patterns. The inductive teachers used specific praise with students, minimal amounts of criticism, and small group activities with a focus on accepting and expanding student ideas and feelings. The sensitizing teachers used perfunctory praise, public criticism of students, large group activities with an emphasis on student misbehavior. While most teachers tend to display a combination of behaviors, each teacher does display an overall socialization style that can be observed and measured. The next step in the process is to determine the effects of these styles on the cognitive and affective development of students.

135. Smith, Douglas K. Classroom Management and Consultation: Implications for School Psychology. Psychology in the Schools, v18 n4 p475-81 Oct 1981.

Analyzed approaches to classroom misbehavior by classroom teachers, and graduate students completing their training in school psychology, using the induction-sensitization model of socialization. Significant differences were noted, with teachers displaying a more sensitizing (punitive) approach to classroom management. A significant gender-profession interaction was found.

*136. Smith, Douglas K. Teacher Styles of Classroom Management. Journal of Educational Research, v71 n5 p277-82 May/Jun 1978.

Teachers use punishment for undesirable behavior more frequently in response to male students than female students.

**137. Stoi, Margaret. Eliminating Problem Behaviors with Positive Controls. Paper presented at the ABA Conference, 1979. 9p. Available ERIC. ED 177 780.

A teacher describes her efforts to deal with an 11-year-old severely emotionally impaired girl in a classroom with other acting out, aggressive students. The girl's behavior problems included breaking, tearing, spitting, swearing, running, and sexual aggression. A positive reinforcement system was found to be primarily responsible for success in altering her behavior. Controls used were verbal and physical -- praise, hugs, pats, and food reinforcers. Restructuring the environment and the daily schedule was also found to work.

**138. Strunck, Jane. A Unique Method for Classroom Control: Happy Sticks. Paper presented at the annual meeting of the Association for Behavior Analysis: International Organization, Dearborn, 1979. 8p. Available ERIC. ED 179 887.

Happy Sticks, the name given to the reinforcement system used in a classroom of pre-school autistic children, is presented. Happy Sticks are decorated tongue depressors serving as token rewards; Happy Bags, or pouches are worn by the children around their necks to hold the earned Happy Sticks. Reinforcement can be immediate and occur throughout all activities with minimal distraction. Happy Sticks are earned for appropriate behaviors and are exchanged intermittently for food rewards. Inappropriate behavior results in the child losing his/her Happy Bag, which is removed by the teacher and the child is ignored while other children behaving appropriately receive increased reinforcement, including Happy Sticks. Once the inappropriate behavior stops, the Happy Bag is given back to the child. The teacher may also remove a Happy Stick from a child's pouch for another inappropriate, but perhaps less disruptive behavior. Happy Sticks are counted frequently throughout activity sessions by the children who receive a food reward regardless of the number of sticks earned. The system helps maintain a positive classroom environment, and the children enjoy it.

**139. Sullivan, Cheryl Granade. Classroom Management in the Social Studies Class. How to Do It Series, Series 2, No. 7. Washington, D.C.: National Council for the Social Studies, 1979. 9p. Available ERIC. ED 178 419. Microfiche only.

Classroom management is discussed in terms of effective instruction, successful group management, maximum use of space, time, and resources, meaningful discipline, student rights, and change strategies. The discussion of effective instruction stresses appropriateness, completeness, clarity, and a variety of lessons. Techniques for successful group management include the teacher's ability to attend to several issues at once and to achieve smoothness in ongoing academic activities, group focus, student accountability, and a variety of activities. Suggestions for maximum use of space, time, and resources refer not only to the teacher who has his/her own classroom but also to the floating teacher. Measures for assuring effective handling of routine matters include learning students' names immediately, providing activities during roll call, returning papers efficiently, making available enrichment materials, and developing standard operating procedures. Classroom discipline is discussed in terms of preventing and dealing with problems through reality therapy, behavior modification, and changing expectations. Legal rights of students are presented relative to Supreme Court cases. Finally, the author outlines steps for initiating change through force field analysis which includes a written statement of the goal, a brainstorming session, selection of appropriate ideas, and development of a plan of action.

**140. Sullivan, Debra K., and others. Implementation of the Stallings Classroom Management Staff Development Demonstration Project in Putnam County, West Virginia. Charleston, W. Va.: Appalachia Educational Lab., 1981. 72p. Available ERIC. ED 225 976.

The primary objective of the Stallings Classroom Management Staff Development Model is to help teachers change so that they can manage their classrooms more effectively. In this model, classroom observations and specific recommendations for teaching behaviors are made for each teacher, and a series of teacher training sessions helps them to change their behaviors. Classroom observation data are collected at the conclusion of the training sessions, and teachers receive profiles showing results of their efforts at changing. This model uses the Secondary Observation Instrument (SOI), which collects information on the teacher and other classroom data, records information about the classroom environment and participants as in a photo "snapshot", and records the interactions and activities taking place each 5 minutes. In this report, an in-depth overview of the implementation of this model is presented. Included is information on: (1) the data collection process; (2) data analysis and interpretation; (3) teacher training processes; (4) project objectives, rationale, and history; (5) characteristics of the schools involved in the project; (6) demonstration project methods and procedures; and (7) project evaluation. Included in the appendixes are a sample observer survey, comments from project observers, and demonstration project pre/post profile summation forms.

*141. Swick, Kevin J. Disruptive Student Behavior in the Classroom. What Research Says to the Teacher. Washington, D.C.: National

Education Association, 1980. 34p. Available ERIC. ED 218 723. Microfiche only.

Recent research suggests that student behavior is influenced by many factors, and teacher responses to disorderly conduct must be based upon a careful assessment of each student's current situation as well as of the teacher's own role in the classroom. This review of the literature discusses common factors affecting student behavior; underlines the need for identifying behavior problems early and communicating with students and parents; and suggests 15 positive responses to behavior problems that are suitable to different circumstances. Five teacher behaviors that can influence student behaviors are discussed: modeling good behavior, designing suitable learning spaces, interacting with students, responding to student attempts to improve, and assessing student learning for purposes of promoting development. The possible impact of non-classroom staff, the curriculum, and the community on both the development of and the solutions to behavior problems is also explored. The document concludes with a listing of the 70 references concerning student behavior and discipline cited in the literature review, and two dozen additional references on the topic.

*142. Talent, Barbara K., and Suzanne G. Busch. Disciplinary Strategies. Today's Education, v71 n1 p38-41 Feb-Mar 1982.

Practical techniques for the teacher to help the child deal with behavior problems and learn to establish self-control include: (1) positive reinforcement; (2) ignoring unpleasant behavior; and (3) setting realistic short-term goals. Methods for helping the student to develop better work habits and for squelching disruptive behavior are described.

143. Tanaka, Jack. Classroom Management: A Guide for the School Consultant. Springfield, Ill.: Charles C. Thomas, 1979. 199p. Not available ERIC. ED 175 084.

Written from a social learning perspective, this book emphasizes the classroom management of problem student behaviors. The text is composed of three major parts. First, "Preparation for Consultation" defines the role of the consultant, outlines the negotiations with teachers and the school principals, and presents behavioral concepts relevant to classroom management. "Problem Solving" then proposes a series of steps to be taken in the school consultation process. Individual chapters in this section cover such topics as specifying and assessing problem student behaviors, behavior measurement, specifying desirable behaviors, identifying positive reinforcers, delineating contingent relationships, and fostering positive interactions. An example of a classroom management program employing a point system is given. Examples of agendas, letters, and forms that may be used during consultation are also included. The third part of the text, "Consultation Experiences," presents special difficulties and emotional issues that are often encountered during actual consultations. The aim of this problem-solving model is to develop the classroom management skills of teachers. To fulfill this aim, the text provides not only the principles of social learning relevant to school consultation but also lucid directions for the consultant to take when assisting school teachers as they correct actual problem student behaviors.

144. Teeter, Thomas A., and Charles R. Teeter. Teaching and Discipline. High School Journal, v63 n1 p12-16 Oct 1979.

From the research literature, the authors draw specific guidelines for the high school teacher on creating a productive classroom environment and preventing discipline problems. Four approaches to behavior management (modification) are also outlined.

**145. Thomas, John W. Efficacy and Achievement: Self-Management and Self-Regard. Philadelphia: Research for Better Schools, Inc., 1978. 58p. Available ERIC. ED 177 712.

The paper provides a review of research on the interrelationship of classroom management practices, motivational factors associated with the disposition to learn, and basic skills achievement. The underlying intent of this paper is to examine evidence relating to a potential conflict between a traditional-practices approach to basic skills instruction and "permissiveness" as defined by self-regulated learning and the promotion of a sense of personal effectiveness. Research and theory presented include reference to such topics as self-control, self-management practices, attribution theory, achievement-motivation training, and continuing motivation.

**146. Tobin, Kenneth G., and William Capie. Student Engagement in Middle School Science Classrooms. Paper presented at the annual meeting of the Southeastern Association for the Education of Teachers of Science, Orlando, Fl., 1980. 23p. Available ERIC. ED 194 522.

Among the teaching variables likely to influence pupil engagement rates are classroom management strategies and instructional behaviors used during presentation of the lesson. Thirteen junior high school science classes were observed to determine how variation in classroom management techniques related to variation in pupil engagement rates, and how rates and types of teaching behaviors related to rates and types of pupil engagement. The relationship between teacher behaviors of attending, recalling, collecting, comprehending, quantifying, planning, and generalizing and pupils' responsive engagement rates was documented.

Higher pupil engagement rates were seen to be associated with classrooms in which appropriate classroom behavior was maintained. High engagement rates were also observed in classrooms where the teacher reinforced and encouraged the efforts of learners to maintain involvement, and used teaching methods appropriate for lesson objectives, pupils' cognitive ability, and the classroom environment.

147. Vartuli, Sue, and Carol Phelps. Classroom Transitions. Childhood Education, v57 n2 p94-96 Nov-Dec 1980.

Provides guidelines to teachers for managing smooth transitions from one preschool activity to another activity.

148. Walker, Hill M. Applications of Response Cost in School Settings: Outcomes, Issues and Recommendations. Exceptional Education Quarterly, v3 n4 p47-55 Feb 1983.

The response cost (RC) procedure has been applied in regular classrooms and playgrounds, self-contained and resource rooms, and residential settings with normal children and elementary-age, behavior-disordered children. RC involves the removal of previously awarded or earned reinforcers for the purpose of reducing deviant, maladaptive, or inappropriate behavior.

**149. Weber, Wilford A. Teacher Perceptions of Effective Classroom Management Strategies. Paper presented at the annual meeting of the American Educational Research Association, Los Angeles, 1981. 15p. Available ERIC. ED 204 311.

One hundred sixty-three experienced, knowledgeable, elementary and secondary teachers were asked to identify classroom management strategies they believed to be most crucial to their teaching effectiveness. In rank order, the eight most frequently selected managerial strategies were: (1) using positive reinforcement; (2) applying logical consequences to misbehavior; (3) establishing and maintaining group cohesiveness; (4) establishing and maintaining productive group norms; (5) communicating acceptance of individual students as persons of worth and dignity regardless of behavior; (6) using time out and withdrawal of rewards as responses to inappropriate behavior; (7) employing problem-solving classroom meetings; and (8) establishing clear expectations and enforcing rules. There was a high degree of concurrence among the teachers on the effective methods, but their choices were pluralistic, not tied to any one management approach. Summaries of respondents' strategies are included, with a list of the references most often cited by respondents in their descriptions.

**150. Weber, Wilford A., and others. A Mini-Instructional System for Increasing Teacher Classroom Management Competence. Paper presented at the annual meeting of the Association of Teacher Educators, Orlando, 1979. 17p. Available ERIC. ED 170 273.

The findings from two studies (Pre-Post and Matched-Pairs) suggest that the mini-instructional system that was designed to provide teachers with training in the analytic-pluralistic approach to classroom management did have a very positive impact on those teachers who received this training. The mini-instructional system is one in which classroom management is viewed as a four-stage process in which the teacher: (1) specifies the desirable classroom conditions; (2) identifies discrepancies between the existing behaviors and those deemed desirable; (3) utilizes those specific managerial behaviors that will most effectively narrow the gap; and (4) evaluates his or her managerial effectiveness. Specifically, findings suggest that the training is effective in fostering those teacher attitudes and teacher managerial behaviors thought to be related to desirable student outcomes.

*151. Wilgosh, Lorraine. Elementary Students' Views on Rules and Control in the Classroom. Alberta Counsellor, n9 p64-65 Fall'80.

This study examined attitudes of children in Grades 2 to 6 toward classroom rules and expectations about the amount of control the teacher should provide. A total of 301 Edmonton elementary students were surveyed. As well, six classroom teachers were also asked to provide information. The students showed general satisfaction with existing class rules. While they wanted to be involved in establishing the rules, they felt that existing rules were necessary and wanted fairly strict controls.

**152. Worsham, Murray E., and Carolyn M. Evertson. Systems of Student Accountability for Written Work in Junior High School English Classes. R&D Report No. 6105. Austin: Texas Univ. Research and Development Center for Teacher Education, 1980. 26p. Available ERIC. ED 196 008.

A study was conducted to determine the relationship between effective classroom management and the manner in which teachers assign and hold students responsible for written work in junior high schools. Seven more effective and seven less effective teachers were studied, and a summary of each teacher's accountability systems was written. Based on these summaries, the teachers were sorted into three groups: those who were consistently successful in maintaining high levels of student responsibility for their work, those who were partly successful, and those who were ineffective. The findings revealed that the more effective managers (1) were more clear and specific with format requirements for written work, (2) had more consistent and efficient procedures for communicating assignments, (3) had more systematic procedures for regularly supervising and encouraging students as they worked, (4) stressed careful and consistent checking and turning in of classroom and homework assignments, and (5) were more consistent in the use and manner of feedback to students about assignments. The results suggest a definite positive relationship between comprehensive accountability systems for written work and effective classroom management. (Summaries of two teacher accountability systems are appended.)

3. DIRECT INSTRUCTION

**153. Baumann, James F. Teaching Children to Comprehend Main Ideas. Paper presented at the Annual Meeting of the National Reading Conference, Clearwater Beach, 1982. 15p. Available ERIC. ED 228 623.

A study evaluated the effectiveness of a direct instructional paradigm for teaching children to comprehend main ideas of prose passages. Subjects, 69 children in three fourth grade classes, were randomly assigned to an experimental "strategy" group receiving direct instruction in main ideas, an experimental "basal" group receiving massed basal reader instruction in main ideas, and a control group receiving vocabulary development exercises. All groups received eight 54-minute lessons over a period of three weeks; posttests were administered in the fourth week. The strategy group lessons consisted of a sequence of main skills progressing from main ideas in groups of words to main ideas in passages. Lessons in the basal group were taken directly from a current basal reader series. Results of the posttests revealed no significant differences between the three groups' skills at comprehending main ideas. Given the proven power of direct instruction, differences in the intelligence of the groups and discipline problems with the strategy group may explain these unexpected results.

**154. Becher, Rhoda McShane. Teacher Behaviors Related to the Mathematical Achievement of Young Children. Paper presented at the annual meeting of the American Educational Research Association, Toronto, 1978. 10p. Available ERIC. ED 164 247.

The purpose of this study was to determine if there were specific teacher behaviors related to the differences in mathematical achievement of four- and five-year-old lower socioeconomic status children across two mathematical curricular intervention treatment conditions. Results indicated that more indirect teacher behavior and the active involvement of the student in the learning process are significantly more effective in facilitating student achievement than is a direct instructional mode. A second interesting finding is that a significant negative correlation was shown to exist between the teacher judgment of the correctness of a response and student achievement.

*155. Becher, Rhoda McShane. Teacher Behaviors Related to the Mathematical Achievement of Young Children. Journal of Educational Research, v73 n6 p336-40 Jul-Aug 1980.

For four- and five-year-old lower socioeconomic status children learning basic mathematics, more indirect teacher behavior and the active involvement of the student in the learning process are significantly more effective in facilitating student achievement than is a direct instruction/passive reception learning mode.

**156. Becker, Wesley C. Symposium on Direct Instruction: The Follow Through Data Show That Some Programs Work Better Than Others. Paper presented at the annual meeting of the American Educational Research Association, Toronto, 1978. 36p. Available ERIC. ED 173 363.

The Abt Associates' final report on the Follow-Through Planned Variation Experiment is defended against the critique published by a blue ribbon panel funded by the Ford Foundation. In contrast to the conclusions drawn by House, Glass, McLean, and Walker that Follow Through showed no "winners" or "losers", the National Evaluation significance data show clearly that direct instruction outperformed other approaches on nearly all measures. Furthermore, a simple examination of normative data for the direct instruction model in comparison to eight other major models, shows that the children in the direct instruction model are at or near national norms on all Metropolitan Achievement Test (MAT) measures at the end of third grade. The conclusions drawn from these analyses are also supported by a reanalysis by Bereiter and Kurland.

*157. Becker, Wesley C., and Russell Gersten. A Follow-up of Follow Through: The Later Effects of the Direct Instruction Model on Children in Fifth and Sixth Grades. American Educational Research Journal, v19 n1 p75-92 Spr 1982.

Low-income fifth and sixth graders who had completed the full three years of a first- through third-grade Direct Instruction Follow Through program were tested. Students appeared to retain the knowledge and problem-solving skills they had mastered in the primary grades.

158. Carnine, D. Direct Instruction: A Successful System for Educationally High Risk Children. Journal of Curriculum Studies, v11 n1 p29-45 Jan-Mar 1979.

Explains how elementary school student achievement was improved by means of a direct instruction program involving reading and mathematics drilling, frequent low-level questions, high levels of teacher feedback, and instruction geared to the students' performance level.

159. Chandler, Harry N. In Praise of the Blackboard. Pointer, v23 n1 p77-79 Fall 1978.

The article suggests ways in which the blackboard can be used to increase teaching effectiveness, especially in relation to the direct instruction method (which involves clear goals, constant monitoring, immediate feedback, single basic steps, and each step clearly objectified).

160. Cicchelli, Terry. Implementing the Direct Instruction Pattern: A Study with Primary Grade Low SES Children. Urban Education, v17 n4 p419-30 Jan 1983.

Discusses the direct instruction pattern, which is based on teacher-centered classroom organization, as a workable teaching style, especially among children of the lower class. Describes teacher behaviors involved in implementing this teaching style, and suggests the use of an observation instrument to monitor direct instruction behaviors.

161. Duffy, Gerald G., and Laura R. Roehler. Direct Instruction of Comprehension: What Does It Really Mean? Reading Horizons, v23 n1 p35-40 Fall 1982.

Defines direct instruction, reviews research analyzing its characteristics and offers reflections on direct instruction of reading comprehension.

**162. Duffy, Gerald G., and others. Two Styles of Direct Instruction in Teaching Second-Grade Reading and Language Arts: A Descriptive Study. East Lansing: Michigan State Univ. Institute for Research on Teaching, 1981. 63p. Available ERIC. ED 212 996.

The term "direct instruction" is often used by researchers and educators as if there were consensus regarding its meaning, when in fact, it covers a variety of qualitative differences. To test this hypothesis, two second grade teachers, each categorized as a proponent of direct instruction, were studied using descriptive techniques. The first teacher, a regular classroom teacher, had taught for 7 years, was a leader of a second-grade teaching team, was completing a masters degree, welcomed professional growth opportunities, and aspired to be a leader in staff development. The second teacher was a professor and researcher of reading instruction who had previously taught in elementary schools. Each teacher was observed daily for 7 days, interviewed twice, and maintained a daily journal about his or her teaching. These data were used to compile case studies of the two teachers. Analysis of the data revealed that, while both teachers were superficially similar in terms of professional concern, management, grouping, and treatment of high and low reading groups, they were quite different in their conception of instructional role, response to mandates, and use of commercial materials. The findings support the hypothesis that the term direct instruction can mean many things. (Appendixes contain the case studies of the two teachers.)

*163. Evertson, Carolyn M., and others. Relationships between Classroom Behaviors and Student Outcomes in Junior High Mathematics and English Classes. American Educational Research Journal, v17 n1 p43-60 Spr 1980.

Sixty-eight teachers (39 English and 29 mathematics) were observed in two of their class sections. Relationships among teaching behaviors and student outcomes in mathematics classes suggest that elements of both the direct instruction model and indirect influence model are supported. Results in English classes are less clear.

*164. Feiman, Sharon. Exploring Connections between Different Kinds of Educational Research and Different Conceptions of Inservice Education. Journal of Research and Development in Education, v14 n2 p11-21 Win 1981.

Three kinds of educational research--scientific, analytic, and interpretive--are examined, and the type of inservice activity most closely related to each is discussed. Effective teaching is defined in terms of a direct instructional model for delivering skills to students. Inservice can improve teacher effectiveness by modifying teacher behavior.

**165. Gallegos, Margaret. Learning Academic Skills through Play. Paper presented at the Annual Meeting of the Southwest Educational Research Association, Houston, 1983. 38p. Available ERIC. ED 225 690.

The purposes of this study are (1) to identify the relationship between play and achievement in preschool and kindergarten students and (2) to compare academic skill mastery levels between two types of school groups: play curriculum and direct teacher instruction. A total of 48 preschool and kindergarten students, half enrolled in a curriculum that stressed learning through play activities and half in a curriculum that stressed learning through direct teacher instruction, were pretested and posttested on a number of academic readiness skills using the Brigance Diagnostic Inventory of Basic Skills. Out of 14 skill sections tested, the preschool play group scored additional gains over the direct instruction group in 13 skill sections. Of 16 skill sections tested, the kindergarten play group scored additional gains over the direct instruction group in 11 skill sections. It is suggested that in order for heightened academic learning to take place, the inclusion of play in early childhood programs seems to be necessary.

**166. Gersten, Russell. Direct Instruction with Special Education Students: A Review of Evaluation Research. 1981. 33p. Available ERIC. ED 223 003.

This paper reviews both the content and the methodological issues involved in the small but growing number of empirical studies on the use of Direct Instruction programs and teaching procedures with special populations. The research reviewed includes experimental and quasi-experimental work, summative evaluations of entire programs, and fine-grained evaluations of single instructional components. These studies evaluate the effects of Direct Instruction reading and language programs among subjects ranging from those with mild academic deficits to the severely handicapped. Studies are organized for discussion according to the type of evaluation design utilized in order to acquaint the reader with the benefits and drawbacks associated with each type of design. For each study reviewed, the major findings are presented and methodological problems and measurement issues analyzed. Directions for future research are suggested. In its final section, the paper turns to the problem of adequately defining independent variables, noting that precision in these definitions is particularly important and suggests further research for resolving this problem.

*167. Good, Thomas L. Teacher Effectiveness in the Elementary School. Journal of Teacher Education, v30 n2 p52-64 Mar-Apr 1979.

The concept of direct instruction in which the teacher sets and articulates goals, assesses student progress, and makes class presentations is presented along with a review of empirical research on which the concept is based and an assessment of its potential and limitations.

*168. McFaul, Shirley A. An Examination of Direct Instruction. Educational Leadership, v40 n7 p67-69 Apr 1983.

Active, teacher-centered instruction is not necessarily effective with all students for all purposes.

*169. Peterson, Penelope L. Direct Instruction: Effective for What and for Whom? Educational Leadership, v37 n1 p46-48 Oct 1979.

Direct instruction is more effective for some purposes and students than for others. The approach used should depend on the type of student and the teacher's objectives.

**170. Ragan, Stephen W. An Application of the Direct Instructional Model to Large Group Instruction: A Statement of Position. Paper presented to the Association for Special Education Technology at the annual convention of the Association of Educational Communication and Technology, New Orleans, 1979. 14p. Available ERIC. ED 185 037.

The "direct instructional method" of teaching is a systematic approach for directing the learner's attention and eliciting an appropriate response. While this method is generally used in small group instruction, this paper suggests that it can be equally effective in large groups, and examples are given of ways to use this strategy. Application of the method to teaching small elements of a skill sequence as well as to the teaching of concepts is illustrated.

171. Roehler, Laura R., and Gerald G. Duffy. Matching Direct Instruction to Reading Outcomes. Language Arts, v49 n5 p476-80 May 1982.

Examines four important outcomes of reading instruction -- to enjoy and appreciate reading, to understand reading's communication function, to find information, and to develop word recognition and comprehension strategies -- and illustrates how direct instruction varies qualitatively from outcome to outcome.

**172. Stayrook, Nicholas. Aptitude-Treatment Interactions in a Study of Teaching Basic Reading Skills in Secondary School. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, 1979. 14p. Available ERIC. ED 172 164.

Aptitude-treatment interaction (ATI) methodology was used to assess the effectiveness of secondary teacher inservice training in reading instruction and test the hypothesis that low-ability secondary students benefit most from directive teaching. For the first part of the study, 39 teachers were placed into two groups. One group received training in classroom behavior previously found to be predictive of reading gains; the other group was only observed. The results suggested that effective training methods are reflected in an altered relationship between teacher traits and classroom processes. In the second part of the study, the presence of an ATI between student ability and the directiveness of instruction was explored by creating an index of the directiveness of instruction, classifying classrooms as being either high or low on directiveness, and assessing the ability/achievement relationship within each group.

*173. Stennett, R.G. DISTAR Reading Program in Junior Opportunity Classes: Phase III -- Impact of Two Full Years of Instruction. Special Education in Canada, v53 n2 p7-10 Win'79.

A three-year controlled study of the feasibility and results of using the DISTAR (Direct Instruction System of Teaching and Remediation) reading program in junior opportunity classes was conducted with the following findings: (1) the DISTAR program can be successfully implemented in junior opportunity classes; (2) over a two-year period, students exposed to the DISTAR program improve their reading skills at a faster rate than students exposed to the traditional program; and (3) gains in reading skill made by junior opportunity class students exposed to either DISTAR or traditional programs are quite modest.

4. EXPECTATIONS

**174. Achilles, C.M., and H.B. Crump. Comparisons of Teacher Verbal/Nonverbal Communications to Various Pupil Groups. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, 1979. 14p. Available ERIC. ED 171 667.

The six studies reported on here sought to determine if patterns of behaviors could be determined in the verbal and nonverbal communications of teachers toward pupils, and if there were differences in these patterns when such variables as sex, race, ability, age, and socioeconomic status were considered. Videotapes of over 100,000 teacher/pupil interactions were analyzed using the Galloway-French IDER system for simultaneously categorizing verbal and nonverbal behaviors. Findings showed there were wide differences in teacher and pupil interactions and that these differences seem to relate to identifiable demographic and personal variables. In addition, results showed major differences in black and white nonverbal communication cues and indicated that the average student is discriminated against in the regular classroom setting.

*175. Algozzine, Bob, and James E. Ysseldyke. Decision Makers' Prediction of Students' Academic Difficulties as a Function of Referral Information. Journal of Educational Research, v73 n3 p145-50 Jan-Feb 1980.

Teachers' and psychologists' ratings of children's potential performance in reading and mathematics are influenced by selected information in referral statements read prior to having objective test scores or rating scales for evaluation.

**176. Algozzine, Bob, and others. Classroom Decision Making as a Function of Diagnostic Labels and Perceived Competence. Minneapolis: Minnesota Univ. Institute for Research on Learning Disabilities, 1980. 25p. Available ERIC. ED 197 518.

Forty special education teachers were asked to make decisions about a fourth grade boy who was portrayed as learning disabled or emotionally disturbed and who exhibited either high or low competence. Classroom placement decisions and future performance predictions were found to be a function of the child's perceived competence. Results were discussed with regard to implications in labeling and mainstreaming.

*177. Allington, Richard L. Teacher Interruption Behaviors during Primary-Grade Oral Reading. Journal of Educational Psychology, v72 n3 p371-77 Jun 1980.

Teachers' verbal behaviors following oral-reading errors of primary-grade children were contrasted for high- and low-ability readers. Teachers were more likely to interrupt poor readers who erred than good readers. The types of interruptions also differed as a function of reading ability level.

178. Aloia, Gregory F., and others. Influence of a Child's Race and the EMR Label on Initial Impressions of Regular-Classroom Teachers. American Journal of Mental Deficiency, v85 n6 p619-23 May 1981.

Regular-classroom elementary school teachers (N=99) were shown a photograph of an 11-year-old Black, Mexican American, or White child and were told that the child was either educable mentally retarded or attended a fifth grade class. The child's race significantly influenced the teachers' initial expectations.

**179. Amabile, Teresa M. Effects of Evaluation Expectation on Artistic Creativity. Paper presented at the annual meeting of the Eastern Psychological Association, Washington, March 29 - April 1, 1978. 20p. Available ERIC. ED 169 450.

Conditions are examined under which the imposition of an extrinsic constraint upon performance of an activity can lead to decrements in creativity. Female college students worked on an art activity either with or without the expectation of external evaluation. In addition, subjects were asked to focus upon either the creative or the technical aspects of the activity, or they were given no specific focus. Finally, some subjects expecting evaluation were given explicit instructions on how to make their artworks. As predicted, subjects in the evaluation groups produced artworks significantly lower on judged creativity than did subjects in the nonevaluation control groups. The only evaluation group for which this pattern was reversed had received explicit instructions on how to make artworks that would be judged creative. A possible reconciliation of these two disparate results is proposed.

*180. Amato, Josephine A. Social Class Discrimination in the Schooling Process: Myth and Reality. Urban Review, v12 n3 p121-30 Fall 1980.

Examines two factors in social class bias in schooling: (1) the bias of school personnel as reflected in teacher classroom behavior and ability grouping decisions; and (2) the schools' meritocratic ideology.

**181. Amato, Josephine A. Teachers' Achievement Expectations: Effects in Open and Traditional Classrooms. Paper presented at the annual convention of the American Psychological Association, New York, 1979. 19p. Available ERIC. ED 179 891.

> Teacher achievement expectation effects were investigated for third- and fourth-graders (24 boys and 24 girls, each grade) in open and traditional classrooms. The main and interaction effects of teacher achievement expectation (High/Low), class type (Open/Traditional), sex of child and grade level on students' behavior and teacher-student interaction were examined by four-way MANOVA's. Expected achievement was not significant as a main effect nor in interaction with any of the other independent variables. Class type was significant as a main effect and in interaction with grade level in several analyses.

**182. Anang, Arlene, and Perry Lanier. Where is the Subject Matter?: How the Social Organization of the Classroom Affects Teaching. East Lansing: Michigan State Univ., Institute for Research on Teaching, 1982. Paper presented at the Annual Meeting of the American Anthropological Association, Los Angeles, 1981. 28p. Available ERIC. ED 222 474.

> Two ninth-grade classrooms and the dynamics between the social organization of the classroom and the teaching of subject matter were studied. A general mathematics and a social studies class, both geared for the academically deficient, were observed during one academic year. Observations focused on student and teacher behavior in the two classes and on the events, both social and academic, to which students and teachers reacted. The two teachers differed in their goals, expectations, and classroom organizational structures. The mathematics teacher's goals focused on the students' general knowledge and attitudes about the specific subject matter, while the social studies teacher's goals were oriented toward general skills that were applicable to most subjects. The social studies teacher viewed the students' learning problems and limitations as "end-point factors" -- factors that prohibited the teacher from teaching or focusing more on subject matter. The mathematics teacher treated these problems and limitations as "beginning-points" -- the place to begin planning and instruction. The mathematics teacher supported students as he worked directly with them, and he encouraged them to attempt higher level tasks. The social studies teacher attempted to gain student cooperation and participation by reducing the level of risk in any task through giving answers to the students and making classroom work easy. The differing goals and expectations of the teachers influenced their choices and the depth to which they could present subject matter. The relative positions of the subject matter and the social organization in the two classrooms affected the students' opportunities to learn.

183. Armstrong, Stephen W., and others. Perceived Brightness and Classroom Interactions. Educational Research Quarterly, v4 n4 p54-60 Win 1979.

The relationship between teacher-perceived brightness/dullness and classroom interactions was investigated with 96 intermediate-grade children. Positive interactions were distributed unevenly between "bright" and "dull" children; no differences were indicated in the distributions of negative and neutral interactions.

**184. Asbury, Jo-Ellen, and Irene Hanson Frieze. Students' Perceptions of Differential Treatment in the Classroom. Paper presented at the Midwestern Regional Conference on Qualitative Research in Education, Kent, Oh., 1981. 33p. Available ERIC. ED 214 980.

Students' achievement in school is undoubtedly multi-faceted. Research has suggested that one important variable in student achievement is the interaction between the teacher and the student. Such interactions may serve to enhance or diminish the achievement of an individual student or group of students. Results of anonymous questionnaires given to 80 fifth grade and sixth graders are reported along with data obtained from teacher ratings of each student's abilities. On the basis of the teacher ratings, high and low expectancy groups were created. Responses to items asking for student perceptions of classroom interactions in general showed no significant differences between the two expectancy groups. These data suggest that the investigation of student perceptions of differential treatment by teachers of those expected to do well and poorly is not as informative as previous research suggests it should be. Other findings are also discussed along with the implication of the research for future work in this area.

*185. Babad, Elisha Y., and others. Pygmalion, Galatea, and the Golem: Investigations of Biased and Unbiased Teachers. Journal of Educational Psychology, v74 n4 p459-74 Aug 1982.

This study examined differential expectancy effects as a function of teachers' susceptibility to biasing information and distinctions between positive ("Galatea effects") and negative ("Golem effects") outcomes of teacher expectancies. Patterns of differential, negative expectancy effects were evident not only in teachers' behavior but also in students' actual performance.

186. Ballowe, Tom, and others. Effects of Success and Failure on Emotionally Handicapped Boys. Contemporary Educational Psychology, v6 n2 p95-101 Apr 1981.

This study investigated the extent to which expectancies and performance of emotionally handicapped children could be altered by success or failure-induced experiences. Students were assigned to either of two experimental conditions. Results indicated that success and failure on a task were influential on subsequent expectancy estimates and performance.

*187. Bognar, Carl J. Dissonant Feedback about Achievement and Teachers' Expectations. Alberta Journal of Educational Research, v28 n3 p277-87 Sep 1982.

Investigates impact of achievement test results (N=285) on 13 sixth-grade teachers' expectations using hypotheses from cognitive dissonance theory. Shows teacher expectations changed very little as a result of feedback, and test results for both under- and overestimated students were rejected.

*188. Bognar, Carl J. Teacher Expectations and Student Characteristics. Canadian Journal of Education, v8 n1 p47-56 1983.

Teachers and student teachers (N=208) were given a fictitious report card for a grade six pupil, with attached photograph. Report cards varied only by the gender and attractiveness of the student portrayed. Expectation effects due to attractiveness or gender were rather meager. Amount of teacher's education contributed more.

**189. Brookover, Wilbur B., and Lawrence W. Lezotte. Changes in School Characteristics Coincident With Changes in Student Achievement. Occasional Paper No. 17. East Lansing: Michigan State Univ., Institute for Research on Teaching, 1979. 112p. Available ERIC. ED 181 005.

This is an in-depth analysis of eight elementary schools, six of which were characterized by improving student achievement and two of which were declining in student achievement. Data were collected through questionnaires and personal interviews. Ten major findings and 10 recommendations for improvement of student achievement are discussed, along with a detailed presentation of relevant data. The most pervasive finding concerned teachers' and principals' attitudes toward student achievement. The staff in the declining schools had low opinions of their students' abilities, while the staff in the improving schools had high opinions of student ability.

*190. Brooks, D.M., and Betsy Wagenhauser. Completion Time as a Nonverbal Component of Teacher Attitude. Elementary School Journal, v81 n1 p24-27 Sep 1980.

Examines the dynamics of the formation of impressions that teachers and pupils have of one another and suggests that the time pupils take to complete a teacher-directed task may be a nonverbal component in the formation of teachers' impressions.

*191. Brooks, Douglas M., and Barry J. Wilson. Teacher Verbal and Nonverbal Behavioral Expression Toward Selected Pupils. Journal of Educational Psychology, v70 n2 p147-53 Apr 1978.

Twelve teachers in individualized classroom settings were asked to select four students subsequently labeled accepted, concerned, indifferent and rejected. Teacher verbal behavior, and teacher-student interpersonal distance, were both recorded. Student questionnaires indicated significant differences in school attitudes among the students, but not in teacher behavior toward them. The situational context approach to the investigation of teacher behavior is discussed.

**192. Brophy, Jere E. Research on the Self-Fulfilling Prophecy and Teacher Expectations. East Lansing: Michigan State Univ., Institute for Research on Teaching, 1982. 78p. Available ERIC. ED 221 530.

Literature and research studies concerning self-fulfilling prophecy effects are reviewed in this document. Works concerning the Pygmalion Controversy, the existence of self-fulfilling prophecy effects of teacher expectations, and the strength and reality of these effects are cited. The document's sections discuss the effects of teacher expectations and: (1) the appropriateness of differential teacher expectations and teacher-student interaction patterns; (2) the mediation of self-fulfilling prophecies in the classroom; (3) the role of individual differences in teachers; (4) the role of individual differences in students; (5) conceptualizing self-fulfilling prophecy effects in the classroom; (6) implications for research; and (7) implications for teaching and for teacher education. It is concluded that a minority of teachers have major expectation effects on their students' achievement but that such effects are minimal for most teachers because their expectations are generally accurate and open to corrective feedback.

193. Bryan, Tanis H., and Ruth A. Pearl. Self-Concepts and Locus of Control of Learning Disabled Children. Educational Horizons, v59 n2 p91-96 Win 1981.

The authors review studies of the self concept and locus of control of learning disabled children, emphasizing that their negative academic self concepts are often reinforced by low expectations of mothers and teachers. Reprinted from the "Journal of Clinical Child Psychology," 1979, v8 pp223-26.

194. Bursa, Andrew L. Students' Ethnicity, Teachers' Expectations, and Their Effects on Students' Performance. M.Ed. thesis. University of Manitoba, 1980. 75p.

No annotation available.

195. Bynum, Lowell. The Teacher Makes the Difference in the Small School. Small School Forum, v3 n1 p3-5 Fall 1981.

Teacher expectations are a powerful factor in the attainment of basic skills. If teachers expect their students to attain basic skills, they are more likely to do so. If teachers do not expect students to do well, that expectation is often fulfilled.

**196. Cherry, Louise J., and Linda S. Berman. Teacher-Student Interaction and Teachers' Perceptions of Students' Communicative Competence: A Cross-Sectional Study. Technical Report No. 473. Madison: Wisconsin Univ. Research and Development Center for Individualized Schooling, 1978. 36p. Available ERIC. ED 166 670.

The relationship between teachers' expectations of students' communicative competence in the classroom and certain aspects of teachers' language during interaction with students was investigated in a study involving 55 nursery school and primary school children and their seven female teachers. The teacher expectation model used in the study proposed that teachers form expectations of students' abilities, that they interact differentially with students depending upon those expectations, and that the expectations are directly related to students' achievement. Results of a sociolinguistic analysis of samples of teacher/student interaction during classroom lessons suggested that the original version of the teacher expectation model was neither powerful nor consistent in its predictions. The relationship between teachers' expectations of students' communicative ability and interaction during lessons was perceived to be a complex interaction involving teachers' expectations, the individual teacher, and the measure of behavior.

197. Clifton, Rodney A. The Effects of Students' Ethnicity and Sex on the Expectations of Teachers. Interchange on Educational Policy, v12 n1 p31-38 1981.

A study examining the relationships among students' ethnicity, sex, teacher expectations, and academic achievement indicates that teacher expectations, which are sometimes based on sex and/or ethnic stereotypes, affect student academic achievement.

*198. Clifton, Rodney A. Ethnicity, Teachers' Expectations and the Academic Achievement Process in Canada. Sociology of Education, v54 n4 p291-301 Oct 1981.

Examines the effect of teacher expectations on differences in achievement between German-speaking and French-speaking ninth graders in English-speaking classrooms. Results suggest that teachers base their expectations on student intellectual abilities and previous performance rather than upon ethnicity or other characteristics.

*199. Clifton, Rodney A., and Ismael J. Baksh. Physical Attractiveness, Year of University, and the Expectations of Student-Teachers. Canadian Journal of Education, v3 n3 p37-46 1978.

Extends previous research (Clifford & Walster, 1973) on the relationship between pupils' physical attractiveness and teacher expectations. Examines the extent to which the length of time that a student-teacher has been in university mediates this relationship.

**200. Cooper, Harris M. Intervening in Expectation Communication: The "Alterability" of Teacher Expectations. 1977. 31p. Available ERIC. ED 165 079.

Theoretical and practical implications of the proposition that teachers' differential behavior toward high and low expectation students serves a control function were tested. As predicted, initial performance expectations were found related to later perceptions of control over performance, even when the initial relationship between expectations and control was removed, while initial control was not found related to later expectations. On a practical level, the effects of teacher participation in an expectation experiment were assessed. "Unalterable" teachers, whose expectations were found most predictable from the sex and I.Q. of their students, reported not being affected by experiment participation while "alterable" teachers did. Students of "alterable" teachers showed greater relative reading gains over the school year than students of "unalterable" teachers. Means indicate that "alterable" lows closed the gap between themselves and "alterable" highs, and that by the end of the school year "unalterable" lows tended to have lesser effort-outcome covariation beliefs than "unalterable" highs, while students in "alterable" highs showed a relative gain in effort-outcome covariation belief when compared to "unalterable" lows.

*201. Cooper, Harris M. Pygmalion Grows Up: A Model for Teacher Expectation Communication and Performance Influence. Review of Educational Research, v49 n3 p389-410 Sum 1979.

Research on the effects of teacher expectations on student performance is reviewed. A model is proposed, based on previous research, or, where more speculation is involved, on identifiable hypotheses.

**202. Cooper, Harris M. Verbal Behavior as Mediations of Teacher Expectation Effects. Paper presented at the annual convention of the American Psychological Association, Montreal, 1980. 22p. Available ERIC. ED 199 613.

The concept that teacher beliefs about future student achievement may actually influence the subsequent performance of students provides the basis for a model of teacher expectation communication which uses attribution theory as explanatory links in the communication process. These model links were tested in a two-year study involving 16 third-, fourth-, and fifth-grade classrooms in 5 schools, from which 12 students from each classroom were studied. The frequency of appropriate and inappropriate student responses and of teacher praise, criticism, and ignoring of these responses was recorded at observations throughout the year; teachers also provided attributions for the students' successes and failures. Relations between success attributions and praise, and failure attributions, criticism, and ignoring were investigated. Teachers who used more criticism per interaction cited internal stable causes less often and cited immediate effort causes more often for student failure. Teachers who were freest with praise attributed successes least often to external teacher-related factors. The most freely praised students experienced successes least often due to internal stable causes and most often due to teacher-related causes. Data generally supported the expectation communication model.

*203. Cooper, Harris, and others. Relations Between Student Achievement and Various Indexes of Teacher Expectations. Journal of Educational Psychology, v74 n4 p577-79 Aug 1982.

The relative effectiveness of three measures of teacher expectations for predicting students' achievement was studied. Teachers' perceptions of student ability and the discrepancy between teacher-perceived ability and student-tested ability were related to achievement change. The amount of improvement the teacher expected was unrelated to the other measures.

*204. Cooper, Harris M., and others. Teachers' Beliefs about Interaction Control and Their Observed Behavioral Correlates. Journal of Educational Psychology, v72 n3 p345-54 Jun 1980.

Teachers viewed interactions with low-expectation students as less controllable than those with high-expectation students and teacher initiations were perceived as more controllable than child initiations. In addition, less perceived control over a student was associated with less feedback from the teacher.

**205. Cooper, Harris M., and others. Understanding Pygmalion: The Social Psychology of Self-Fulfilling Classroom Expectations. Paper presented at the Annual Convention of the American Psychological Association, New York, 1979. 88p. Available ERIC. ED 182 642.

Extensive research has been conducted examining the effects of teacher expectations on student performance, revealing reasonably consistent patterns of differential behavior by teachers toward high and low expectation students. Few theories which integrate isolated research findings into a causal sequence have emerged, however. One such model outlines the process through which teacher expectations may sustain student performance by proposing that teachers more frequently use negative affectively valenced feedback to low expectation students as a mechanism for interaction control, while high expectation students more frequently receive feedback based on their effort expenditure. These different evaluation contingencies lead to a lesser belief on the part of lows than highs that effort will influence academic outcomes. As with learned helplessness effects, differences in effort-outcome covariation perceptions may lead to less persistence and more failure on the part of lows than highs, thus sustaining poor performance. Support for several aspects of the model comes from varying sources, including this first attempt to test the entire hypothesized sequence within the same system of naturally-occurring teacher-student relations.

*206. Crano, William D., and Phyllis M. Mellon. Causal Influence of Teachers' Expectations on Children's Academic Performance; A Cross-Lagged Panel Analysis. Journal of Educational Psychology, v70 n1 p39-49 Feb 1978.

In a 4-year longitudinal study of 4,300 British elementary school children, teachers' expectations influenced children's achievement to an extent appreciably exceeding that to which children's performance impinged on teachers' attitudes. Teachers' evaluations of children's social performance affected later achievement to an extent exceeding that attributable to academic expectations.

**207. Crowe, Patricia B. An Observational Study of Teachers' Expectancy Effects and Their Mediating Mechanisms. 1979. 6p. Available ERIC. ED 173 316.

The theory that teachers treat students from whom they expect superior achievement differently than those from whom they expect inferior performance is examined. Five ways of reacting on the part of the teacher are identified for the purpose of this study -- teacher warmth, teacher feedback, teacher selection of materials, opportunity offered for student response, and frequency of touch. Physical education teachers were asked to rank their students as either high or low achievers and were then observed for a two-week period. The following behaviors were observed: (1) high achieving students were asked more questions and given more opportunity to respond; (2) teachers treated designated high achievers more warmly than designated low achievers; (3) there was little evidence that teachers provided more feedback to high achievers; (4) there was no significant evidence that teachers taught more new material to high achievers; and (5) teachers did not touch their designated high achievers more than designated low achievers.

*208. Dunkin, Michael J. Student Characteristics, Classroom Processes, and Student Achievement. Journal of Educational Psychology, v70 n6 p998-1009 Dec 1978.

Two approaches to apportioning variance in post-test achievement scores were compared. Comparisons were also made among different criterion measures in exploring process-product correlations. The same process variables tended to correlate with all three product measures. Relationships among student characteristics, process variables, and student achievement indicated possible teacher expectancy effects.

*209. Dworkin, Nancy, and Yehoash Dworkin. The Legacy of "Pygmalion in the Classroom." Phi Delta Kappan, v60 n10 p712-15 Jun 1979.

Discusses the impact of teacher expectation on student performance and then describes a program that changes teacher expectations by focusing on the achievements of students.

**210. The Effects of an Orientation to Sociolinguistics on the Perceptions of Teaching Candidates. 1979. 15p. Available ERIC. ED 173 292.

A report is given of an investigation examining the influence of student dialect and ethnicity on teachers' expectations of academic performance. The subjects of the study were secondary level teaching candidates enrolled in a generic methods course comprised of ethnically mixed learners. A control group of the teachers was given a course in sociolinguistics. The theme of this course was that language prejudices are socially based and, while dialect forms may be different, these dialects are functional in communication. Results of this investigation indicate that dialect has a significant effect on teaching candidate expectancy of learners' academic behavior. The candidates exposed to a course in sociolinguistics exhibited less biased attitudes than their counterparts. It is suggested that such courses be incorporated in teacher education programs.

211. Elijah, David. Teacher Expectations: Determinants of Pupils' Reading Achievement. Reading Improvement, v17 n2 p117-21 Sum 1980.

Results of a study of teacher rankings of reading readiness suggested that teacher rankings are as reliable as rankings using the Metropolitan Readiness Tests; the results did not indicate that teacher expectations of student achievement can be altered.

**212. Entwisle, Doris R., and Leslie Alec Hayduk. Academic Expectations and the School Attainment of Young Children. Report No. 269. Baltimore, Md.: Johns Hopkins Univ. Center for Social Organization of Schools, 1978. 57p. Available ERIC. ED 174 359.

This paper focuses on the scholastic achievement of five cohorts of white, middle-class children as they progressed through their first grade year of an elementary school. Multiwave data on several hundred children were gathered, from just before they entered first grade to the end of that grade in an attempt to clarify the process of early schooling. Specifically, researchers wanted to investigate how expectations of significant others and feedback provided to children may affect children's achievement and academic self-image in the first grade. It was found that parents' expectations for their children's performance responded to IQ of the child, to the child's sex, and to the kindergarten teacher's forecast. Parental expectations influenced only conduct marks (not reading or arithmetic marks) and had little impact on children's expectations except for year-end reading expectations. Other parental estimates did not influence children's marks or expectations directly. Over the first grade year children's expectations were largely indeterminate although expectations did respond to arithmetic mark feedback and to parental reading expectations by the end of the year. This finding is contradictory to assumptions that children's expectations for themselves crystallize soon after they start school. Children's performance levels from the first report card to the end of the first grade were highly continuous. This suggests that even the earliest marks children receive are major determinants of future evaluations and that teachers' earliest formal evaluations may play a leading role in determining achievement levels in young children.

*213. Foster, Glen G., and others. Predicting the Educational Bias Effect. Alberta Journal of Educational Research, v26 n1 p44-50 Mar 1980.

Reporting a significant relationship between teacher acceptance of diverse behavior and their resistance to the biasing influence of a deviancy label, this article indicates academic performance of at least some children may be affected by the bias effect and suggests five ways to reduce the negative effects of bias.

*214. Fry, P.S. Process Measures of Problem and Non-Problem Children's Classroom Behaviour: The Influence of Teacher Behaviour Variables. British Journal of Educational Psychology, v53 Pt1 p79-88 Feb 1983.

Results of analyses of 15 teacher and pupil process measure variables suggest that deterioration is noticeable in teachers' interactions, with problem children receiving more negative affect and less sustaining feedback from their teachers over a four month observation period.

*215. Fry, P.S. Pupil Performance Under Varying Conditions of High and Low Expectations and High and Low Controls. Canadian Journal of Behavioral Science, v14 n3 p219-231 Je'82.

The effects of four combinations of teachers' expectations and control on pupil performance were studied in a well-controlled laboratory simulation of the classroom. Two male and two female teachers presented each of the four combinations -- (a) high expectations with high control; (b) high expectations with low control; (c) low expectations with high control; and (d) low expectations with low control -- to different randomly selected samples of grade three male and female subjects. The experimental teaching task was a series of spelling and sentence construction exercises. Data analyses indicated significant effects of teacher expectation and teacher control on the performance of 160 pupils. Teachers' high expectations combined with high control motivated significantly greater performance in subjects, expecially boys, who were more influenced by the high control factor than were girls. Implications for educational practice and ideology are discussed.

*216. Good, Thomas L. How Teachers' Expectations Affect Results. American Education, v18 n10 p25-32 Dec 1982.

Discusses several research studies which show that what teachers expect of their pupils is usually what they get from them.

*217. Good, Thomas L. Teacher Expectations and Student Perceptions: A Decade of Research. Educational Leadership, v38 n5 p415-22 Feb 1981.

Data on teacher expectation research have revealed that some teachers treat high- and low-achieving students differently and that teachers' expectations appear to be associated with student achievement.

**218. Good, Thomas L. What Is Learned in Schools: Responding to School Demands in Grades K-6. Paper presented at a Meeting of the National Commission on Excellence in Education, Washington, 1982. 88p. Available ERIC. ED 227 100.

Individual teacher behaviors, characteristics, and instructional methods make an important difference in what and how well students learn. Children enter school with a wide variety of differences in family background and aspirations, expectations, and previous learning. Research on learning in the home, nursery school, and kindergarten points out the differences between the learning environments of school and home settings, and differences between teachers' and parents' expectations and approaches to teaching. Once in the school environment, the student encounters a variety of instructional styles and classroom expectations in teachers which often pose problems as they move from class to class or grade to grade. In addition, a student's background may conflict with the general school culture or that of a particular teacher. In this paper, which discusses current trends and research on this topic, questions are raised about instructional practices such as tracking, pull-out instruction, and ability grouping on the grounds that they often create difficult teaching/learning situations. The general effects of teacher expectations on student performance are discussed with suggestions for improvement.

*219. Good, Thomas L., and others. Classroom Interaction as a Function of Teacher Expectations, Student Sex, and Time of Year. Journal of Educational Psychology, v72 n3 p378-85 Jun 1980.

Classroom interaction patterns between male and female students perceived as either high or low achievers were examined in the fall, winter, and spring. Expectation and sex results were consistent with previous findings. Results suggest that teachers make major socialization efforts early in the year.

220. Grapko, Michael F. The Relation of Teacher Expectancy and Pupil Self-Assessment to Pupil Performance. Ontario Ministry of Education, 1980. 75p.

This study was based on data collected in 1974 to 1975 on the rating scores of 792 pupils who were then divided into five categories. These consisted of two concordant categories of those whose ratings and scores on the security test were both either high or low, two discordant categories in which the ratings and scores differed markedly and a control group whose ratings and scores fell within the half standard deviation of the mean. Results showed that students in the discordant categories exhibited less steady growth in academic achievement than those in the concordant categories.

*221. Guskey, Thomas R. The Effects of Change in Instructional Effectiveness on the Relationship of Teacher Expectations and Student Achievement. Journal of Educational Research, v75 n6 p345-49 Jul-Aug 1982.

To determine whether increasing teachers' effectiveness influences the relationship between teachers' initial expectations for a student and the student's actual performance, data were gathered on intermediate grades and secondary school teachers who participated in a mastery learning workshop. Correlations between teacher expectations and student performance were lower than those of a control group.

**222. Guskey, Thomas R. The Influence of Change in Instructional Effectiveness Upon the Relationship of Teacher Expectations and Student Achievement. Paper presented at the annual meeting of the American Educational Research Association, Los Angeles, 1981. 18p. Available ERIC. ED 200 629.

The influence of change in teachers' instructional effectiveness upon the relationship between their expectations for students' performance and student achievement outcomes is investigated. Data were gathered from 44 intermediate and high school level teachers who participated in an inservice training workshop on mastery learning strategies. Correlations between teachers' initial expectations for students' achievement and students' final examination scores, final grades, and teachers' follow-up expectations for students, were all significantly lower in mastery classes of those teachers who experienced some positive change in their instructional effectiveness. The degree of change in instructional effectiveness was determined by comparing each teacher's mastery and control classes in terms of the following two outcome measures: (1) percent of students in each class receiving an A or B as course grade; and (2) average percent correct on a common course examination. Implications regarding related teacher perceptions and classroom behaviors are discussed.

**223. Hill, William C. Galatea in the Classroom: The Distribution of Teacher-Pupil Interaction and Its Relationship to Class-Size. 1981. 26p. Available ERIC. ED 225 646.

If what is known about selective processes of perception is coupled with awareness of the extremely rapid pace of classroom interaction, the classroom setting becomes one in which differential teacher expectations are likely to be formed and maintained. In fact, research findings reveal the power of teacher expectations: high teacher expectations can increase student achievement and low expectations can actually decrease achievement. Attempts to alter the communication of differential expectations by retraining teachers have generally been successful, but have been found to be quite expensive. Student achievement is also influenced by class size. Research findings indicate that a student achieving at the 50th percentile in a class of 40, if instructed in a group consisting of 1 to 5 students, is likely to achieve at the 83rd percentile or higher. Because this achievement effect is specific to groups of 20 pupils or less, a "student threshold for achievement" concept of facilitative student-teacher interaction is supported. It is possible that in classes of 21 to 40 pupils, fewer students' thresholds for achievement are reached by teachers due to the much wider distribution of interaction. There are several procedural methods for equitably distributing interaction that teachers can use (1) to counter the reluctance of peripherally seated students to initiate interaction, and (2) to compensate for teacher expectancy behaviors. (Directions for further research are suggested.)

224. Hoffman, James V. The Disabled Reader: Forgive Us Our Regressions and Lead Us Not into Expectations. Journal of Learning Disabilities, v13 n1 p2-6 Jan 1980.

The article discusses the use of expectancy formulas (formulas based on the discrepancy between achievement and potential, and used as the chief criterion for special program inclusion and evaluation) by teachers of the reading disabled, and reports on a survey of 25 university masters degree programs in reading teacher education regarding such formulas.

225. Hoffman, James V., and Cherry L. Kugle. A Study of Theoretical Orientation to Reading and Its Relationship to Teacher Verbal Feedback during Reading Instruction. Journal of Classroom Interaction, v18 n1 p2-7 Win 1982.

A study examined the relationship between teachers' theoretical orientations toward reading and the verbal feedback they give to students during guided oral reading. A major finding is that teachers' beliefs and behavior vary with the instructional situation; that is, teachers hold different beliefs for different student ability groups.

**226. Hoge, Robert D. The Teacher Expectation Effect: An Attempt at Clarification. Paper based on presentation at the annual conference or the Canadian Association of Young Children, Ottawa, October 25-27, 1979. 14p. Available ERIC. ED 183 264.

Several beliefs about the teacher expectancy effect are false or half-truths. Current interest in the teacher expectation effect began with the publication in 1968 of Rosenthal and Jacobson's book, "Pygmalion in the Classroom". That book stated that a teacher's expectations for a pupil's achievement function as a self-fulfilling prophecy. Rosenthal and Jacobson also implied that this expectancy effect could be used to explain much of the variability among pupils in achievement, but they had no basis for that assertion. Their conclusion led to much research which produced very inconsistent results. Inconsistency came from two sources: serious methodological problems and a simplistic model of the expectancy effect. A more adequate model makes it clear that there is nothing inevitable about the teacher expectation effect. While the author believes the formation of expectations is inevitable, sources and accuracy of teacher expectations should be investigated. Recent research indicates that teachers tend to base their expectations on aspects of the pupil's classroom behavior and generally are good judges of the potential and performance of their pupils. Teachers, though, should be better educated in the use of information about pupils and should be continually critical of their judgments and be willing to change opinions and beliefs about school children.

227. Hutslar, Sally. The Expectancy Phenomenon. Journal of Physical Education and Recreation, v52 n7 p88-89 Sep 1981.

Teacher expectations of student success or failure greatly affect student performance levels. Four distinct areas of teacher-student interaction are: input (new material presented to the student); climate (emotional tone of the interaction); feedback (the teacher's use of praise and criticism); and output (length of time a teacher spends with a student).

**228. Hutslar, Sally. Is the Expectancy Phenomenon Operating in My Gym? 1977. 10p. Available ERIC. ED 211 534.

A brief explanation of the factors associated with the "pygmalion effect" is presented and focuses on how teacher expectations of high or low student performance in a physical education class may influence the student's actual achievement. A model identifying four areas of teacher-student interaction that differ with regard to high and low expectancy students is given. The first area is input, the amount and difficulty of new material presented to students. Students labeled as slow have been found to receive fewer opportunities to learn new material. The second is climate, the tone of the interaction process between teacher and student. Teachers appear to create a warmer atmosphere for brighter students. Feedback, the third area, is the teacher's use of praise and criticism after academic exchange. Teachers tend to praise high expectancy students more frequently. The fourth area is output, the length of time the teacher is willing to spend seeking a successful conclusion and the frequency with which the student is engaged in academic behavior. Using this model, a list of questions is presented that can serve as an indicator of teacher actions in relation to teacher expectations. This list can serve as a general guide for a teacher in evaluating interaction patterns with high and low ability students. A technique for teacher self-evaluation using classroom observations and a behavior checklist is outlined.

229. Jeter, Jan T., and O.L. Davis, Jr. Differential Classroom Interaction in Social Studies as a Function of Differential Expectations of Pupil Achievements. Journal of Social Studies Research, v6 n1 p1-7 Win 1982.

Describes a study which investigated whether differences in teacher verbal interactions with students are a function of achievement expectations and sex differences. Ten fourth grade social studies teachers and 120 students were observed using the Brophy-Good dyadic observation system. Results indicated that achievement expectations, but not sex, influenced teacher interactions.

*230. Kelly, Delos H., and Winthrop D. Grove. Teachers' Nominations and the Production of Academic "Misfits". Education, v101 n3 p246-63 Spr 1981.

Presents evidence from a New York study which indicates that some teachers may be using invalid, nonacademic criteria to place students in remedial reading programs, and suggests that the resulting deviant stigmatizing effects on these students may be inhibiting their academic and social development.

**231. Levine, Elinor R. What Teachers Expect of Children from Single-Parent Families. Paper presented at the Annual Convention of the American Personnel and Guidance Association, Detroit, 1982. 26p. Available ERIC. ED 219 692.

Educators are beginning to address the needs of children living in single-parent families and to recognize that the existing societal ideology of the family as a breadwinning husband and homemaking wife living with their children is problematic. However, single-parented children may suffer discrimination through school policies and teachers' attitudes. To determine teachers' psychosocial and academic expectations for children from one- and two-parent families, 100 teachers completed questionnaires. In addition, 102 parents were asked to respond to the same questionnaire in the way in which they believed a teacher would. Results indicated that the teachers had lower expectations for children from single-parent families. Parents perceived that teachers would have lower expectations for children from single-parent families. The findings suggest that teachers' negative expectations for single-parented children may have an impact on their students' performance.

232. Logan, John W. I Could Have Told You Johnny Was a Problem, I Had Him Last Year. Teacher, v96 n3 p16,19 Nov 1978.

Teachers were anonymously surveyed for their views on the ethics of teacher discussions of individual students in formal and informal settings, the latter signifying the teachers' lounge, hallways, etc.

*233. Low, Lana, and Lee M. Wolfle. Effects of a First-Grade Teacher on Students' Achievement in Four Subsequent Years. Elementary School Journal, v83 n5 p528-36 May 1983.

Students of a first-grade teacher designated as "effective" on the basis of pupils' short-term gains in achievement did not perform as well as students of other teachers in subsequent elementary grades.

**234. Low, Lana, and Lee M. Wolfle. Enduring Effects of First-Grade Achievement. Paper presented at the annual meeting of the American Educational Research Association, New York, 1982. 21p. Available ERIC. ED 219 436.

Low and Wolfe (1981), in a study on the enduring effects of first grade teachers, found unexpected results that short-term gains in first grade do not necessarily lead to long-term academic gains. These results differed from Pedersen, Faucher and Eaton's (1978) findings. To investigate this anomaly, the primary and multilevel editions of the SRA Achievement Series were administered to a total of 417 students twice a year from first through fifth grade. The results of the analysis, based on the mean levels of achievement in math and reading, showed that students of the identified effective first grade teacher achieved gains in both math and reading and did so repeatedly. However, the students who achieved test score gains over their first grade peers did not achieve gains in subsequent elementary school grades as fast as students of the other teachers. By fifth grade, the initial gain group of students was over a half of a standard deviation below the mean of other students. It was concluded that early elementary education may be more beneficial if it teaches students how to learn, rather than basic skills.

EXPECTATIONS

**235. Marshall, Hermine H., and others. "Everyone's Smart in Our Class": Relationships between Classroom Characteristics and Perceived Differential Teacher Treatment. Paper presented at the annual meeting of the American Educational Research Association, Boston, 1980. 30p. Available ERIC. ED 186 404.

The relationship between classroom characteristics and student perceptions of differential teacher treatment in elementary classrooms was examined. Teacher treatment was found to be unrelated to openness of classroom structure. In all classrooms, teachers gave more negative feedback, direction, more orientation to work, and rules to low than to high achievers. Teachers showed greater expectations, and presented more opportunities and choices for high achievers. Teachers varied in the amount of perceived differential treatment shown with both high and low achievers. They also varied in both the amount and direction of supportive help given to high and low achievers.

236. Martinek, Thomas J. Pygmalion in the Gym: A Model for the Communication of Teacher Expectations in Physical Education. Research Quarterly, v52 n1 p58-67 Mar 1981.

Research has shown that teacher expectations not only determine certain types of student performance but also serve to sustain low and high levels of performance. A model shows how teacher expectations are formed, how they are communicated, and how they sustain levels of student performance in physical education.

237. Martinek, Thomas J., and Susan B. Johnson. Teacher Expectations: Effects on Dyadic Interactions and Self-Concept in Elementary Age Children. Research Quarterly, v50 n1 p60-70 Mar 1979.

The purpose of this study was to describe the effects of teacher expectations on specific teacher behaviors and student behaviors during physical education instruction.

**238. Metheny, William. The Influences of Grade and Pupil Ability Levels on Teachers' Conceptions of Reading. Paper presented at the annual meeting of the National Reading Conference, San Antonio, Texas, 1979. 12p. Available ERIC. ED 182 713.

Nine primary teachers were interviewed to determine whether their reading beliefs for their classrooms differed from beliefs they might have had if they were teaching either an upper elementary grade or a classroom of students from a socioeconomic (SES) background different from their present classrooms. The teachers stated their beliefs for five groups of readers on eight dimensions of decision making criteria.

The results supported the hypothesis that teachers' reading conceptions vary from group to group. The teachers tended to equate low SES pupils with low ability readers and high SES readers with high ability and upper grade readers.

239. Minner, Sam. Expectations of Vocational Teachers for Handicapped Students. Exceptional Children, v48 n5 p451-53 Feb 1982.

The study examined three components of the initial expectations of 66 secondary vocational teachers toward mainstreamed educable mentally retarded and learning disabled children. Among findings was that presence of the labels lowered the initial academic and behavioral expectations of teachers in the sample.

**240. Ogletree, Earl J., and Gwendolyn Hill. Pygmalion in the Classroom: An Examination of the Issue. 1974. 13p. Available ERIC. ED 205 483.

Factors that may influence teacher academic expectations include socioeconomic level, sex, level of academic and intellectual functioning, background information, and test results. In a study conducted by Rosenthal and Jacobson (1968) on teacher expectations and pupils' intellectual development, it was found that, when teachers expected certain children to show greater intellectual development, those children did show greater intellectual development. The IQ test upon which this conclusion was based identified certain children as having greater intellectual potential than other students. Some criticism has been leveled at the Rosenthal and Jacobson study. Doubts have been raised as to whether teachers are trained to effectively administer IQ tests. If this is the case, results from such tests may yield subjective and incorrect data. It has also been pointed out that results of IQ tests may be misinterpreted. Teachers must be very careful in forming expectations for their pupils.

**241. Pandya, Himanshu S. Teacher Expectancy Related to Student Performance in Vocational Education. University Park, Pa.: Pennsylvania State Univ. Department of Agricultural Education, 1978. 14p. Available ERIC. ED 160 890. Microfiche only.

A study was designed (1) to discover the effect of teacher expectation on student performance in the cognitive and in the psychomotor skills, and (2) to analyze students' attitudes toward teachers because of teacher expectations. The study utilized two different instructional units. The quality milk production unit was used to teach cognitive skills with emphasis on class instruction and paper and pencil tests. The small gasoline engine unit was used to teach certain psychomotor skills. Each instructional unit was taught in two comprehensive high schools. Students within each class were divided into three groups. Group one, positive expectancy students, received constructive comments on their assignments and appropriate teacher behavior during the experiment. Group two, constructive expectancy students, received constructive comments on the assignments and appropriate teacher behavior during the experiment. Group three, control group students, received no comments on their assignments and no expectancy interaction from teachers. After one month of instruction, students were tested in each subject area. Students' attitudes toward the teacher and subject were also measured before and after the experiment. The findings revealed that the teacher's expectations did change the students' attitudes toward the teacher and subject; however, written comments by the teacher on students' assignments had no significant effect on the level of student achievement.

**242. Parsons, Jacquelynne E., and others. The Effects of Teachers' Expectancies and Attributions on Students' Expectancies for Success in Mathematics. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, 1979. 14p. Available ERIC. ED 180 787.

This study investigates the effects of teachers' expectancies and patterns of feedback to students on students' expectancies for success in mathematics. Six predictions involving various levels of expectancy, feedback, and sex were made. Initial statistical analysis supported the proposed relation between teachers' expectancies and student expectancies, but many of the predictions were not supported. Only student sex and teachers' expectancies were found to be significant predictor variables by a stepwise regression. Additional statistical procedures were then carried out; among the findings it was indicated that "bright" females were treated differently in each of the two classroom types.

243. Pedersen, Eigil. The Lifelong Impact of a First-Grade Teacher. Instructor, v89 n5 p62-63,66 Dec 1979.

Argues that first-grade teachers strongly influence the future successes of their students.

*244. Pflaum, Susanna W., and others. The Influence of Pupil Behaviors and Pupil Status Factors on Teacher Behaviors During Oral Reading Lessons. Journal of Educational Research, v74 n2 p99-105 Nov-Dec 1980.

Pupil behaviors during oral reading influence teacher response more strongly than do preconceived pupil status variables. The research findings are also related to the formation of teacher expectations.

*245. Reavis, Charles A., and Stephen C. Shine. A Study of the Effects of Prefatory Remarks on Teacher Evaluation. 1977. 19p. Available ERIC. ED 175 811.

A test was made to determine the impact of positive or negative expectations on individuals conducting formal observation of teachers in the classroom for the purpose of evaluation. Two groups of graduate students who were receiving training in classroom observation viewed a video tape of a teacher instructing her class. Group one was given the impression that she had been a fine education student in college; group two was told casually that she had not been outstanding in college. A review of the evaluation ratings by the two groups revealed that their responses to the teacher's classroom behavior were colored by the prefatory remarks they had heard, and that they were inclined to judge her with some positive or negative bias.

**246. Richey, Linda S., and others. Teachers' Attitudes and Expectations for Siblings of Learning Disabled Children. Minneapolis: Minnesota Univ. Institute for Research on Learning Disabilities, 1980. 35p. Available ERIC. ED 203 613.

Based on their classroom experiences with learning disabled (LD) nonhandicapped students during the school year, 16 third grade teachers were asked to complete rating scales predicting expected performance of siblings of these students who might be assigned to them in the future. Results revealed that teachers hold significantly lower expectations for siblings of LD children than are held for siblings of nonhandicapped children. Lower expectations were consistent for all areas of academic performance, classroom behavior, motor skills, perceptual abilities, and memory. Siblings of LD children also were expected to make less progress throughout the school year and to require more support services. These data suggest that previous experiences with LD children bias teachers' expectations for the younger siblings of these children.

**247. Richey, Linda, and others. Teachers' Expectations for the Siblings of Learning Disabled and Non-Learning Disabled Students: A Pilot Study. Minneapolis: Minnesota Univ. Institute for Research on Learning Disabilities, 1980. 27p. Available ERIC. ED 197 516.

Eighteen regular education teachers completed a rating scale on their expectations for the behavioral and academic performances of 27 younger siblings of learning disabled (LD) and non-LD students. All teachers previously had taught the Ss' older siblings. Expectation ratings were significantly lower for the siblings of LD Ss in the areas of reading level, general knowledge, visual/auditory perception, and memory skills. These students were also expected to make relatively less progress during the year and to need more support services than children with a non-LD sibling. Study limitations are cited.

248. Rosenthal, Robert. Biasing Effects of Experimenters. ETC.: A Review of General Semantics, v34 n3 p253-64 Sep 1977.

Explains the types of effects, usually unintentional, that psychologists can have upon the results of their research; describes the "Pygmalion Experiment," in which teachers' expectations for children's behavior proved to be self-fulfilling prophecies; and points to research needs in the area of interpersonal expectations.

249. Schloss, Patrick, and Sidney R. Miller. Effects of the Label "Institutionalized" vs. "Regular School Student" on Teacher Expectations. Exceptional Children, Special Education and Pediatrics: A New Relationship, v48 n4 p363-64 Jan 1982.

Results indicated differing teacher expectations for the two placements regarding appropriate programing but no significant differences in the expected duration of services.

*250. Simmons, Barbara. Sex Role Expectations of Classroom Teachers. Education, v100 n3 p249-53 Spr 1980.

About 200 elementary school teachers and student teachers surveyed indicated variations in their expectations for boys and girls. Citing cultural factors as causes, they expected boys to be more aggressive and physically adept. Girls were expected to be more emotional, intuitive, empathetic, and ambitious, due to biological factors.

251. Simpson, Robert G. Further Investigation and Interpretation of the Expectancy Effect Generated by Disability Labels. Diagnostique, v7 n2 p101-08 Win 1981.

The author investigated possible components of teacher expectancy and attitudes toward the integration of emotionally disturbed students into regular classes with 34 teachers of grades 4 through 6. The label "emotionally disturbed" was found to be a significant predictor of teacher ratings.

*252. Spencer-Hall, Dee Ann. Looking behind the Teacher's Back. Elementary School Journal, v81 n5 p281-89 May 1981.

Examines teacher expectations of students in the classroom and the ways that students help to create and/or maintain such expectations. An observational study of children's classroom behavior focuses on the behavior of students independent of interaction with teachers. Subjects are 63 fourth, fifth and sixth graders.

*253. St. George, Alison. Teacher Expectations and Perceptions of Polynesian and Pakeha Pupils and the Relationship to Classroom Behaviour and School Achievement. British Journal of Educational Psychology, v53 Pt1 p48-59 Feb 1983.

A study of 90 nine year olds in five ethnically mixed New Zealand classrooms indicated that teachers perceived Polynesian pupils less favorably than White students on dimensions reflecting parent/home factors and academic work skills. Observations of teacher pupil interaction, however, showed no ethnic differences.

**254. Stern, Paula R., and Richard J. Shavelson. The Relationship between Teachers' Grouping Decisions and Instructional Behaviors: An Ethnographic Study of Reading Instruction. Paper presented at the annual meeting of the American Educational Research Association, Los Angeles, 1981. 30p. Available ERIC. ED 201 971.

An ethnographic study of small group reading instruction was conducted to learn how teachers' judgments of students' abilities influenced the way they grouped students for reading instruction and the effects of these grouping practices on teachers' planning and instructional behaviors. Two teachers and 20 students were observed over the course of a six-month period in a team-taught fifth/sixth grade classroom at a university affiliated elementary school. The results indicated that teachers group students on the basis of their reading ability. Once grouped, the group and not the individual child became the unit for many teaching decisions. Teachers' plans for the low-ability group differed considerably from their plans for the high-ability group. Procedures, decoding and basic comprehension skills, and highly structured assignments were prescribed for the low-ability group, while flexibility in procedures and assignments and an emphasis on sophisticated comprehension skills were stressed for the high-ability group.

**255. Straussner, Joel H. Problem Solving Style, Teacher Classroom Behavior and the Expectancy Phenomenon. Paper presented at the Annual Meeting of the American Psychological Association, Washington, 1982. 32p. Available ERIC. ED 223 551.

A study investigated the relationship among teacher problem solving style, classroom behaviors, and susceptibility to the expectancy phenomenon (the possibility that pupil classroom performance can be influenced by a teacher's attitudes, beliefs, and actions). Based on Elkind's conceptual shift experiments (1966), 12 elementary school teachers were asked to discover a relationship between 12 pairs of words and pictures. Teachers were also asked to record characteristics looked for in successful students and to rank students by these criteria. This ranking enabled two observers to record pupil-teacher classroom interactions with the Brophy-Good Dyadic Rating Scale. Results indicated that the classroom behaviors of teachers were related to their problem solving style. Teachers with a rigid problem solving style had pupil-teacher interactions that indicated a relationship to perceived differences in student abilities, while teachers with a flexible problem solving style demonstrated that their interactions with pupils were less affected by perceived differences in student abilities. The results suggest that differences in teachers' problem solving styles can be interpreted as a correlate to differences in teacher susceptibility to the expectancy phenomenon.

256. Swann, William B.,Jr., and Mark Snyder. On Translating Beliefs into Action: Theories of Ability and Their Application in an Instructional Setting. Journal of Personality and Social Psychology, v38 n6 p879-88 Jun 1980.

Instructors were taught that pupil ability was either extrinsic or intrinsic, and were led to believe one pupil possessed high ability and one low ability. Instructors adopted teaching strategies based on the theory of ability they had been taught. Pupils behaved in ways which confirmed teacher expectations.

257. Thurman, Richard L., and others. An Analysis of Teacher Rating Differences Between First-Grade and Mentally Retarded Children: Were Expectancy Biases Involved? Educational Research Quarterly, v7 n1 p7-14 Spr 1982.

Forty-five teachers of educable mentally retarded (EMR) students and 34 first-grade teachers rated their students' mathematical abilities on a seven-point scale. The EMR teachers rated their students significantly lower than did first-grade teachers, although they performed comparably on the Peabody Mathematics Readiness Test.

**258. Weinstein, Rhona Strasberg, and Susan E. Middlestadt. Learning About the Achievement Hierarchy of the Classroom: Through Children's Eyes. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, April 8-12, 1979. 31p. Available ERIC. ED 170 071.

This paper reports on the underlying rationale and some early findings of a series of studies which investigate how students perceive and interpret teacher behavior toward high and low achievers in elementary classroom settings. To explore students' perceptions a multi-method approach was devised and two measures were constructed: a semistructured interview schedule for examining student beliefs about achievement status and differences, and a 60-item teacher treatment inventory which allowed students to rate teacher treatment of a hypothetical high or low achiever of male or female sex. Preliminary findings of studies among the elementary school children suggest that students do perceive differential treatment by the teacher of male high and low achievers. In effect, different environments exist for high and low achievers within one classroom setting. Additionally, it appears that students read into teacher behavior much beyond what researchers commonly think they are measuring; perceived teacher treatment differences most often reflect differences in the task assignment and management arena of classroom life; and children learn about their own relative smartness in school through at least four kinds of processes. Among the implications discussed, it was noted that by not waiting for an answer to a question or by collecting incomplete assignments from students teachers can limit the opportunities for a student to perform and learn.

259. Willett, John B., and others. A Meta-Analysis of Instructional Systems Applied in Science Teaching. Journal of Research in Science Teaching, v20 n5 p405-17 May 1983.

Reports results of the meta-analysis of 130 research studies on effects of instructional systems used in science teaching. Studies coded gave rise to 341 effect sizes. Systems examined included audio-tutorial, computer-linked, individualized, and media-based instructional systems, personalized system of instruction, mastery learning, self-directed study, programed learning, source papers, and team teaching.

5. INSTRUCTIONAL TIME

**260. Academic Learning Time. The Best of ERIC on Educational Management, Number 65. Eugene, Oreg.: ERIC Clearinghouse on Educational Management, 1982. 5p. Available ERIC. ED 213 072.

The twelve papers, articles, and reports presented in this annotated bibliography review theories and evidence on the relationship between learning time and academic achievement in elementary and secondary schools. The papers concentrate on three types of learning time: "time on task", which is the amount of time students are actually engaged in learning; "allocated time", the time a teacher schedules for a learning activity; and "academic learning time", the time a student spends successfully learning. Several papers relate time on task to contextual, instructional, and pupil variables and to the match between a particular student and the difficulty of a task. Other papers suggest a model of the relationship of time to learning and note the significance of time in the mastery learning and direct instruction techniques of teaching. A workshop on how to increase academic learning time in the classroom is described in one article, while the final paper examines the relationship of another kind of time, teachers' lesson preparation time, to academic achievement and students' prior achievement levels.

**261. Allington, Richard L. Content Coverage and Contextual Reading in Reading Groups. Paper presented at the Annual Meeting of the National Council of Teachers of English, Washington, 1982. 25p. Available ERIC. ED 228 604.

Teacher logs for 600 reading group sessions from grades 1, 3, and 5 were analyzed to identify whether the amount and mode of assigned contextual reading differed systematically between "good" and "poor" reading groups. Analyses indicated that groups comprised of good readers read more total words and more words silently than did groups composed of poor readers at all grade levels. At grade levels 1 and 5, however, poor readers read more words orally than did good readers. The pacing of instruction was different within grade levels, with the good reader groups progressing at a faster pace through assigned materials. Poor readers seemed to be moving at a pace more closely approximating that of the younger better readers than that of their age-matched peers. The findings suggest that while teachers allocate the same amount of time for reading instruction to both poor and good readers, the good readers are allowed to cover much more material in that time.

*262. Allington, Richard L. The Reading Instruction Provided Readers of Differing Reading Abilities. Elementary School Journal, v83 n5 p548-59 May 1983.

Argues that differences in instruction influence differences in students' reading abilities as much as do variations in instructional time, individual learning styles or aptitudes. Suggests ideas for enhancing instruction of poor readers.

**263. Anderson, Lorin W. Learning Time and Educational Effectiveness. Reston, Va.: National Association of Secondary School Principals, 1980. 14p. Available ERIC. ED 210 780. Microfiche only.

To explore the relationship between time and school learning, this paper defines the three kinds of learning time identified by researchers -- allocated time, time-on-task, and academic learning time -- and relates them to curriculum development. The author cites evidence that time-on-task is related to student achievement and describes two instructional approaches that have been associated with high levels of time-on-task. The first of these is mastery learning, which includes nine key elements, summarized here in checklist form. The second, direct instruction, has ten key elements and, according to the author, is similar to mastery learning. Central to both is the need for clearly defined goals, communication of expectations to students, and careful monitoring of student progress. The author lists several school districts currently involved in putting the research on learning time and instruction into practice and includes a capsule description of each program. Finally, implications of the learning time concept for instructional and teaching effectiveness are offered.

**264. Archambault, Francis X, Jr., and others. The Classroom Activities Log: A Personalized Record of a Child's School Day as Recorded by His/Her Teacher. Paper presented at the annual meeting of the National Council on Measurement in Education, San Francisco, 1979. 29p. Available ERIC. ED 178 609.

The development and validation of an instrument designed to measure the quantity of types of instruction delivered to individual students is described. The Classroom Activities Log (CAL) is a teacher-completed record of students' instructional experiences, and may be used to study educational equity questions posed by Elementary Secondary Education Act Title I mandates. Some of the features of CAL are: (1) student focus; (2) limited number of variables; (3) minimal teacher training and costs; (4) availability of data on individual students' daily activities; and (5) ease of scaling. The school day is divided into ten-minute periods, and thirteen content areas are quantified: language arts; English as a second language; mathematics; social studies; science; fine and applied arts, home economics, shop, or foreign languages; physical education, health and safety;

career education; cultural enrichment; special services; recess, lunch or unoccupied; classroom management; and other. Information is also provided on size of the instructional group, type of adult involved in the instruction; bilingual instruction; and compensatory education programs. It is concluded that reliability estimates (based on correlations between teacher and observer ratings) are acceptable, and that there is a certain degree of construct validity.

*265. Arehart, John E. Student Opportunity to Learn Related to Student Achievement of Objectives in a Probability Unit. Journal of Educational Research, v72 n5 p253-59 May-Jun 1979.

Opportunity to learn specific content as measured by amount of emphasis and exposure to that content relates positively to the amount students learn.

*266. Arlin, Marshall. Teacher Transitions Can Disrupt Time Flow in Classrooms. American Educational Research Journal, v16 n1 p42-56 Win 1979.

Disruptive pupil behavior increased during teacher-initiated transition time as opposed to nontransitional time. Procedures for structuring transitions to increase time-on-task and maintain smoothness and momentum are described, and teachers' conceptions of time and classroom time flow are discussed.

**267. Baath, John A. Postal Two-Way Communication in Correspondence Education. An Empirical Investigation. 1980. 186p. Available ERIC. ED 224 466. Microfiche only.

A review of the research on correspondence education with emphasis on its two-way communication aspects introduces this report on a series of studies designed to shed light upon problems related to the design and delivery of correspondence instruction. A total of 1,805 adult students enrolled in regular Swedish, Norwegian, and British correspondence courses of a secondary school or vocational training type were randomly assigned to experimental groups with (1) varying "submission density" (equivalent to varying length of study units); (2) varying numbers of assignment questions (omitted questions being replaced by self-check exercises); and (3) traditional postal instruction versus computer-assisted postal instruction. Data were collected through questionnaires, final tests, and a special student register. Results in the third series of experiments showed that the computerized postal instruction was experienced as more positive by the students than the traditional one. Students receiving computer-assisted correspondence tutoring started submitting more assignments than students receiving traditional tutoring by mail. In one of the two experimental courses, they also completed their studies more fully and more rapidly. Examples of postal two-way communication, computer-generated comment letters, and additional tables are appended, and a 13-page reference list is provided.

*268. Behnke, Grant, and others. Coping with Classroom Distractions. The Elementary School Journal, v81 n3 p135-55 Jan 1981.

Examines techniques teachers use to cope with distractions to classroom instruction and determines their effectiveness in eliminating distractions or minimizing instructional time lost.

**269. Behr, George. Research Based Considerations for Effective Program Implementation. Paper presented at the annual meeting of the American Educational Research Association, Toronto, 1978. 18p. Available ERIC. ED 162 735.

This paper examines practices under school control that have an impact on the allocation and expenditure of instructional time, and offers research based considerations for effective program implementation. Research literature sources and data sets are used as a basis for examining: pacing of instruction, uses of common textbook instruction, productive instructional time, initiation of instruction at the beginning of the school year and placement of pupils for instruction. It is suggested that program implementation can be effective if it incorporates the movements toward minimal competency testing, individualized educational programs, increased dissemination of outcome-based instructional systems, and a general increasing desire for school accountability, as these movements force decisions concerning what to teach, given available resources. Three requisites for accountable schooling are established: (1) measurement instruments sensitive to the instructional programs and goals of the school; (2) measurement devices and procedures for describing the learning opportunities provided by the school (e.g., placement, time spent on instruction); and (3) a mechanism for gathering and making this information accessible to parties responsible for making decisions about and for the school.

**270. Bennett, Neville. Teaching and Curriculum Organisation in British Open Plan Schools. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, 1979. 20p. Available ERIC. ED 172 411. Microfiche only.

The data discussed in this speech are taken from a large, three-year study that investigated the whole process of open-plan schooling. The study included a national survey of schools in Britain and a series of onsite observations. The analyses reported here derived from the observation of

552 pupils in grades 2 and 4 using the Pupil Behavior Schedule. The main areas of concern were curriculum allocation, which is the opportunity teachers provide for pupils to study a given curriculum content, and pupil involvement, which represents what pupils make of that opportunity. Large variations were found in the curriculum allocation between units. It is pointed out, however, that such variations are not limited to open-plan schools. The findings on pupil involvement can be interpreted in a number of ways. One might argue that pupils are involved for nearly two-thirds of the week, whereas another might complain that, on the basis of these figures, 9 of the 25 hours a week spent at school are devoted to noncurricular activities. It is of interest that some teachers manage to keep their pupils involved for 19 hours a week and others for only 13.

**271. Bennett, Neville. Time to Teach: Teaching-Learning Processes in Primary Schools. East Lansing: Michigan State Univ. Institute for Research on Teaching, 1981. 40p. Available ERIC. ED 209 242.

A model of the teaching-learning process identifies and describes varied behavioral dimensions of the classroom and how they relate to pupil achievement. The model is based on the assumption that the total amount of engaged time on a particular topic is the most important determinant of achievement and has the components of: (1) quantity of schooling; (2) time allocated to curriculum activities; (3) pupil involvement; (4) content comprehension; (5) achievement; and (6) feedback. The quantity of schooling is defined by length of the school day and year, and pupil attendance. The allotment of time for subjects in the curriculum relates to achievement levels in such subjects as math, language, and reading. The pattern of time allocation for various subject areas is an important consideration when planning and implementing instruction. Pupil involvement is particularly important in achievement and consists of attention, task persistence, active learning time, and engagement on task. Constant and supportive feedback from the teacher is a factor in improving pupil involvement, comprehension, and achievement. The effectiveness of this model, which was derived from empirical research on classroom teaching and learning, has several implications for effective teaching of curriculum planning, classroom organization, curriculum organization, and feedback.

**272. Berkeley, Muriel V., and Doris R. Entwisle. Kindergarten Social Climate. Baltimore, Md.: Johns Hopkins Univ. Center for Social Organization of Schools, 1979. 28p. Available ERIC. ED 183 287.

This is an intensive observational study of teacher behavior in six kindergartens in three schools. The schools were picked to be typical examples of a white middle class suburban school, an integrated lower class urban school, and a black lower class urban school. In all three schools teachers used the greatest proportion of class time (from 33 to 61%) for procedural activities (e.g., lining up), and the next largest proportion of time (from 18 to 37%) for cognitive activities (e.g. color naming). In all schools teacher reprimand exceeded praise and negative evaluations exceeded positive ones. Insofar as the schools observed are typical, the findings do not support hypotheses that achievement differentials for low-income children in the early years of school can be explained by less-than-average exposure to instruction or that teachers in urban schools are more critical of children than teachers of suburban students.

*273. Borg, Walter R. Teacher Coverage of Academic Content and Pupil Achievement. Journal of Educational Psychology, v71 n5 p635-45 Oct 1979.

Two studies related content coverage to pupil achievement. With ability and socioeconomic status controlled, a correlation of .40 was obtained between content coverage and achievement. Significant correlations were also obtained between teacher coverage and achievement for two groups of teachers covering two units two months apart.

**274. Brown, Byron W., and Daniel H. Saks. Research Issues Concerning the Production and Finance of Schooling. Research Series No. 65. East Lansing: Michigan State Univ. Institute for Research on Teaching, 1979. 33p. Available ERIC. ED 187 001.

Using data collected in a beginning teacher evaluation study, this paper attempts to show that time is an important input in producing learning. First the paper discusses equalization of tax bases in school districts, inequality in the distribution of inputs, and the importance of multiple outputs in schools. Next it describes an economic model of production and choice that can be used to understand and explain the large variation in the amounts of resources--mostly time--that students receive. The paper concludes that a critique of the traditional economic models used in education research can be made into a constructive economic theory of schooling.

**275. Brown, Ric. The Training of Teachers Using Observation of BTES Variables. 1979. 9p. Available ERIC. ED 196 900.

The most difficult task of educational researchers is the transmission of relevant research findings to the classroom. There are two modes of transmission available to researchers: inservice to practicing teachers, and inclusion of relevant research in preservice teacher education. A study was conducted to involve beginning student teachers in one of the most pervasive research projects of teacher effectiveness in the past several years: the Beginning

Teacher Evaluation Study (BTES). The BTES is a research program concerning teaching effectiveness in the elementary school. The purpose of the study was to identify teaching activities and classroom processes that enhanced student learning. The results of the study were integrated into the Academic Learning Time (ALT) model of classroom instruction. ALT is a measure based on observable student behavior and is defined as the amount of time a student is engaged in an academic task. BTES showed positive correlations between ALT and student achievement. Project results indicate that current research on teaching effectiveness can and should be successfully integrated into preservice teacher education.

*276. Caldwell, Janet H., and others. Time Spent in Learning: Implications from Research. Elementary School Journal, v82 n5 p471-80 May 1982.

Provides an overview of the research findings on the relationship between time spent on learning and student academic achievement and discusses implications of this research for improving the use of time spent on learning.

277. Capie, William, and Kenneth G. Tobin. Pupil Engagement in Learning Tasks: A Fertile Area for Research in Science Teaching. Journal of Research in Science Teaching, v18 n5 p409-17 Sep 1981.

This synthesis of research in academic engagement addresses studies in several academic areas. A general relationship of teacher performance and student engagement in learning tasks is noted. Cites studies indicating a relationship between degree of engagement and achievement and suggests numerous research questions for science education researchers.

**278. Chow, Stanley H.L., and others. A Study of Academic Learning Time of Mainstreamed Handicapped Students. Final Report. Berkeley, Calif.: Far West Lab. for Educational Research and Development, 1980. 156p. Available ERIC. ED 199 990.

The study examined whether there were differences in the quality of classroom time spent by 79 mainstreamed learning disabled fifth grade students and 141 regular fifth grade students; and also whether differences in quality of time related to student, instructional, and classroom variables. Trained observers coded learner moves, content area, and difficulty level on 5 minute cycles during math instruction with six students in each of 37 classes. Among findings were the following: over one third of the designated math period was devoted to nonmath activities; mainstreamed students tended to spend less time engaged in math activities than regular students in the same class; the key time variable distinguishing between mainstreamed and regular students was that regular students spent more time on tasks where they experienced success; instructors' interactions with students, either individually or in groups, influenced the amount of time engaged in math activities; and the introduction of handicapped students into regular classrooms was related to decreases in the engaged time of both mainstreamed and regular students. Over half the document consists of an appendix containing the complete observation training manual developed for the study and provides explanations of the observation categories and procedures for coding observations.

**279. Chow, Stanley H.L., and others. A Study of Academic Learning Time of Mainstreamed Learning Disabled Students. Final Report. San Francisco, Calif.: Far West Lab. for Educational Research and Development, 1981. 68p. Available ERIC. ED 216 467.

To study the in-class learning experiences of mainstreamed handicapped students, academic learning time (ALT) was measured for 79 mainstreamed learning disabled (LD) and 143 regular fifth and sixth graders in year 1 and 62 mainstreamed LD students and 166 regular students in year 2. Analyses of student records, responses to teacher questionnaires, and classroom observation revealed significant differences between LD and regular Ss in all five year 1 ALT variables: allocated time, engaged time, time on high success tasks, time on medium success tasks, and time on low success tasks. When ALT is defined as percent of time on high success tasks, mainstreamed students had less than half the ALT of their regular counterparts. Factors associated with ALT included sex (girls tended to have more engaged time and high success time, and less medium success time than boys) and age (younger mainstreamed girls had more ALT than older students in general). The relationships of teacher background variables to ALT variables were negligible. The teacher's instructional behavior was strongly correlated with student engagement. Overall, ALT measures were relatively unstable from 1 week's observation to the next, and from one study year's average to the next.

**280. Comparison and Identification. Time Leader's Guide. Basic Skills Instructional Improvement Program. Philadelphia, Pa.: Research for Better Schools, Inc., 1980. 99p. Available ERIC. ED 193 201.

The improvement of student engaged time leads to instructional improvement. Major steps for improving instruction by increasing student engaged time are information collection, comparison of information and identification of strategies, selection and preparation of strategies, and implementation and re-evaluation. This leader's guide covers the topics of comparison and identification by teaching program participants how to: (1) compute student engaged time; (2) compare information collected with research findings; (3) identify opportunities for improvement; and (4) set tentative goals for student engaged time, allocated time, and engagement rate. Instructional materials to be used in this program are included.

281. Confrey, Jere. Review of "Time to Learn": Subject-Matter Specialists. Journal of Classroom Interaction, v17 n2 p32-36 Sum 1982.

In this critique of "Time to Learn," a publication dealing with the Beginning Teacher Evaluation Study, the reviewer argues that time spent on a task is not an adequate measure of instructional quality or relevance. Other limitations of the book and of the study are discussed.

*282. Cornbleth, Catherine, and Willard Korth. Context Factors and Individual Differences in Pupil Involvement in Learning Activity. Journal of Educational Research, v73 n6 p318-23 Jul-Aug 1980.

Three variables: subject area, day of the week, and academic activity, were examined to determine whether pupil involvement in academic learning activities is an indicator of pupil learning. Differences were found in each variable, implying that more effective use of allocated instruction time will increase academic achievement.

**283. Cornbleth, Catherine, and Willard Korth. Instructional, Context, and Individual Differences in Pupil Involvement in Learning Activity. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, 1979. 28p. Available ERIC. ED 171 409.

Assuming that pupil involvement in academic learning activities (involved time) is a behavioral indicator of pupil learning, this study examined two context variables (subject area, day of the week) one instructional variable (activity format) and one pupil variable (previous achievement growth) in relation to pupil involved time. Individual pupil behavior was observed in fourth grade classrooms and coded according to type of academic activity and activity format (individual, group) during language arts, math, science, and social studies. Differences in involved time were found for subject area, day of the week, and achievement growth. The results were discussed in terms of their implications for making more effective use of allocated instructional time.

**284. Cotton, Kathleen, and W.G. Savard. Time Factors in Learning. Research on School Effectiveness Project: Topic Summary Report. Portland, Oreg.: Northwest Regional Educational Lab., 1981. 113p. Available ERIC. ED 214 706.

The Alaska School Effectiveness Project produced several reports in a series of reviews of research literature on such topics as time factors in learning. Using an ERIC search and conventional library methods, the question raised was "Is there a positive relationship between the amount of allocated time for studying a subject and achievement in that subject?" Thirty-five valid studies were reviewed. Based on various findings, it was concluded that the greater the amount of engaged time, the higher the levels of student achievement. Of all measures of student learning time, the rate of academic learning time (ALT) constitutes the best predictor of achievement. It is therefore recommended that: (1) time allocations for different subjects should reflect the relative priorities given to the various subject areas; (2) efforts should be made to keep the amount of classroom "dead time" at a minimum; (3) additional instructional time allotments, preferably in an interactive mode, should be provided for low-ability, low-achieving students; (4) techniques should be applied which can increase the amount of time students spend on task; and (5) activities and methods which result in greater amounts of ALT should be utilized. The document includes item decision displays, a 48 item bibliography, and individual item reports on the citations.

*285. Dangel, Richard F., and B.L. Hopkins. The Effects of Different-Length Assignments on Classroom Deportment and Academic Performance. Journal of Educational Research, v72 n6 p303-09 Jul-Aug 1979.

The use of longer mathematics assignments with fourth- and sixth-grade students resulted in improved student behavior and a greater number of correct answers.

286. Daniels, Abraham F., and Emil J. Haller. Exposure to Instruction, Surplus Time, and Student Achievement: A Local Replication of the Harnischfeger and Wiley Research. Educational Administration Quarterly, v17 n1 p48-68 Win 1981.

Reports the results of research on the effects of exposure to schooling on student achievement. Data were collected covering a 10-year period in which a high school deliberately reduced the amount of classroom time available to it students.

**287. Darst, Paul W., and Doug Steeves. A Competency-Based Approach to Secondary Student Teaching in Physical Education. 1979. 23p. Available ERIC. ED 175 838.

The effects of a competency based intervention strategy on selected behaviors of student teachers in physical education were investigated to determine if there was any subsequent change in two categories of pupil behavior. Subjects received a competency based package, which included specific instructions, a reading sheet, graphic feedback, cues, reinforcement, and weekly goals. Rates per minute for selected teacher behaviors and the percentage of pupils engaged in the two pupil behavior categories were plotted to form a profile of both teaching and pupil behaviors. These profiles illustrated the way teachers and pupils behaved in the physical education environment during both pre-intervention and intervention conditions. Significant increases were observed in both teachers' positive behaviors and pupils' engagement in appropriate behavior.

*288. Davidson, Jack L., and Freda M. Holley. Your Students Might Be Spending Only Half of the School Day Receiving Instruction. American School Board Journal, v166 n3 p40-41 Mar 1979.

After a study determined that elementary students spent more than one-fifth of each day in noninstructional activities, the Austin Independent School District initiated changes that have increased the amount of time students spend on instruction and also increased student test accuracy.

**289. Denham, Carolyn, ed., and Ann Lieberman, ed. Time to Learn. A Review of the Beginning Teacher Evaluation Study. Sacramento: California State Commission for Teacher Preparation and Licensing, 1980. 251p. Available ERIC. ED 192 454.

This volume describes the process, findings, and implications of a complex research project known as the Beginning Teacher Evaluation Study (BTES). A major contribution of the study is its focus on Academic Learning Time (ALT) as a measure of learning. ALT is the amount of time a student spends engaged in academic tasks of appropriate difficulty. The study began as a search for information on which to base policy decisions regarding desirable competencies for beginning teachers. For a variety of reasons the study began to focus on second- and fifth-grade mathematics and reading and on experienced, rather than beginning, teachers. The book is divided into three parts with 14 chapters, each by a different author or group of authors. The first describes and analyzes the findings of the study and connects them to a growing body of literature on the importance of time as a key influence on learning. The second explores what the study might mean to teacher educators, staff developers, teachers, and principals. The third section moves the research findings into the schools;

a teacher and a principal describe how they use the findings. In addition, policy-making and dissemination are discussed as two essential concerns of large-scale research on teaching and learning, such as the BTES.

**290. Derevensky, Jeffrey L., and others. An Examination of Achievement Related Behavior of High and Low Achieving Inner City Pupils. Research for paper partially funded by a Quebec Provincial Grant. Paper presented at the annual meeting of the American Educational Research Association, Los Angeles, 1981. 26p. Available ERIC. ED 208 089.

This study investigated the behavioral differences between high and low achieving students in two Canadian inner city schools. One school consisted predominantly of first generation Portuguese, Greek, and Chinese children, while the other served a predominantly second or third generation population of English speaking Canadians. An academic engaged time model was employed in evaluating the observations of the on task/off task behavior of these elementary school students during mathematics and reading lessons. Findings suggested that high and low achieving inner city children spend a large proportion of time actively engaged in academic tasks, but high achievers spend somewhat more time than low achievers. No significant developmental trends were noted and it was recommended that future studies focus on task appropriateness and student success.

**291. Easton, John Q., and others. Relationship among Student Time on Task, Orientation of Teachers, and Instructional Grouping in Elementary Reading Classes. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, 1979. 16p. Available ERIC. ED 169 503.

A study of 74 elementary classrooms in Chicago was undertaken to see how the management and organization of instruction impinge on student involvement during reading instruction. The objectives were to determine whether student attention was higher when the teacher directed instruction to the entire room than when the teacher directed instruction to a group of students within the room, if there was a difference in student attention when there was one instructional group or more than one in a classroom, and the relationship between student involvement and various school level characteristics, including scores on standardized reading tests and the percent of students from poverty-level families. It was found that the average percent of students not involved in instruction was much greater in classrooms where the teacher was oriented to a group, that involvement was lower in classrooms when there were two or more groups than when there was only one, that student involvement is significantly related to reading achievement, and that poverty is correlated to the percent of students not involved in instruction.

**292. Edenhart-Pepe, Michael, and others. Who is Engaged More -- Teacher or Students? An Analysis of How Activity Structures Affect Student Learning Engagement. Paper presented at the annual meeting of the American Educational Research Association, Los Angeles, 1981. 17p. Available ERIC. ED 200 635.

Structural characteristics of classroom activities and student and teacher engagement behaviors were investigated. Observer teams collected data on the structure of activities, student engagement behaviors, and teacher behaviors in arithmetic and reading lessons in six elementary classrooms in a middle class, suburban school district. The structure of academic activity was characterized by six dimensions (group size and teacher presence, supervision, student choice of work group, task, process, and product) jointly referred to as structural configurations. Three general structural configurations were predominant: (1) recitation, characterized by large, teacher-directed group activity; (2) class-task, characterized by various assignments being given to small groups and/or individuals; and (3) multitask, which typically involves independent work of individuals or small, student-directed groups and had the greatest amount of student choice in terms of specific tasks, work partners, processes for completing tasks, and products or outcomes of tasks. Structural changes occurred throughout lessons, but the frequency and extent of the changes varied across teachers. Teachers obtained comparable student engagement levels in different ways. Student engagement appeared to interact with activity structure and teacher engagement. A reliable, cost-effective method was developed.

293. Effective Teaching and the Use of School Time. Northern Principal, v8 n1 p8-9 Je'82.

No annotation available.

*294. Erickson, G., and others. Dealing with Classroom Distractions. Elementary School Journal, v81 n1 p40-45 Sep 1980.

The purpose of this study was to determine the effect of three kinds of interruptions (pupil interruptions, external interruptions, and teacher interruptions) on the continuity of pupils' attention in the classroom. Participants were 32 student teachers in four geographically distinct locations in British Columbia.

**295. Evans, Richard M., and Alvin J. Surkan. Factors in Time-Variable Learning Allowed by Computer Delivered Interactive Testing. Paper presented at the annual meeting of the

Association for the Development of Computer Based Instructional Systems, Dallas, 1978. 19p. Available ERIC. ED 160 076. Microfiche only.

Students undergoing a mastery-variable time-variable undergraduate educational psychology course were studied in order to determine the effects of level of mastery chosen (by the students for a final grade) on time taken to reach criterion level over five course examinations. When equated for trials to criterion, no such grade aspiration effect was found. A factor analysis of 23 course-related measures found time allowed for learning an important source of variation in a Mastery Learning teaching strategy, while academic aptitude was relatively unimportant. The study demonstrated how low-cost microcomputers can provide time flexibility in school curriculum.

*296. Evertson, Carolyn M., and others. Effects of Class Heterogeneity in Junior High School. American Educational Research Journal, v18 n2 p219-32 Sum 1981.

Analysis of classroom process data from junior high school English classes indicated that heterogeneity of students' entering achievement levels in a given class limits teachers' successful adaptation of instruction to individual student needs. Higher heterogeneity was also associated with a lesser degree of student task engagement and cooperation.

**297. Felsenthal, Helen, and Irwin Kirsch. Variations in Teachers' Management of and Time Spent on Reading Instruction: Effects on Student Learning. Paper presented at the annual meeting of the American Educational Research Association, Toronto, 1978. 20p. Available ERIC. ED 159 614.

To determine if there was variability in scheduled and engaged time in reading among classrooms and in management style among teachers and to see if these factors accounted for differences on a standardized reading achievement measure, a study was conducted involving 13 fourth, fifth, and sixth grade reading classrooms. Pretest and posttest data were collected using a reading achievement test to measure cognitive outcomes. A structured observational record was used to document program implementation; items from this record were combined to comprise a measure of teacher management style. Information on the scheduled reading time was obtained from school administrators, and engaged reading time was obtained through observation. The study showed extreme variation in teacher management style and in the amount of engaged and scheduled time in reading in each classroom. However, an analysis of the results indicated that after accounting for pretest scores, neither engaged time nor management style accounted for a significant percentage of the variability in reading posttest scores. Although the results were not statistically significant, these variables appear to be worthy of further study in an attempt to relate teacher behavior to student learning.

298. Fenstermacher, Gary D. On Learning to Teach Effectively from Research on Teacher Effectiveness. Journal of Classroom Interaction, v17 n2 p7-12 Sum 1982.

Three possible ways to link teachers with research on teaching and teaching practices are described: (1) rules, (2) evidence, and (3) schemata (which provide a way to "see" a phenomenon and to think about it). Illustrations are drawn from the Beginning Teacher Evaluation Study. Schemata on classroom time and teacher behavior are presented.

*299. Fisher, Charles, and others. Improving Teaching by Increasing "Academic Learning Time." Educational Leadership, v37 n1 p52-54 Oct 1979.

Teachers will improve student learning if they attend to allocated time, engaged time, and student success rate.

**300. Fisher, Charles W., and others. Selected Findings from Phase III-B. BTES. Beginning Teacher Evaluation Study. Supplement. Preliminary Version. San Francisco: Far West Lab. for Educational Research and Development, 1978. 172p. Available ERIC. ED 160 639.

This series of six papers concerning the Beginning Teacher Evaluation Study (BTES) starts with Teaching Behaviors, Academic Learning Time and Student Achievement: An Overview of Phase III-B of the Beginning Teacher Evaluation Study by the project director, Charles Fisher. As an introduction, it describes a model of classroom instruction based on the concept of student academic learning time (ALT) as a function of student entering characteristics (aptitude), and teaching behaviors and other classroom context variables. More precisely, ALT is student engagement time with relevant tasks which have a low error rate for that student. The remaining papers were: Methodological Issues and Concerns in Research on the BTES Classroom Learning Model by Leonard S. Cahen; Academic Learning Time and Achievement: The Validation of a Measure of Ongoing Student Engagement and Task Difficulty by Richard Marliave; How Teachers Produce "Academic Learning Time": Instructional Variables Related to Student Engagement by Nikola N. Filby; Changing Academic Learning Time: Clinical Interventions in Four Classrooms by David C. Berliner; and An Analysis of Instructional Time in Grade 2 Mathematics by Cahen and Fisher. An annotated bibliography of 57 documents related to the BTES is appended.

301. Fisher, Charles W., and others. Teaching Behaviors, Academic Learning Time, and Student Achievement: An Overview. Journal of Classroom Interaction, v17 n1 p2-15 Win 1981.

A model is used to show that teaching behaviors which influence student learning have five interrelated functions: diagnosis, prescription, presentation, monitoring, and feedback. Fourteen major findings from field research report relationships between academic learning time and student achievement, and a relationship is shown between teaching processes and classroom environment in relation to student learning.

**302. Fisher, Charles W., and others. Teaching Behaviors, Academic Learning Time and Student Achievement: Final Report of Phase III-B, Beginning Teachers Evaluation Study. Technical Report V-1. San Francisco, Calif.: Far West Lab for Educational Research and Development, 1978. 493p. Available ERIC. ED 183 525.

Four major questions are addressed in this research report: What is the relationship between student academic learning time and student achievement?; What are the relationships between teaching processes and academic learning time?; Are teaching processes, academic learning time, and student achievement related to student attitudes?; and, Are instructional variables related to retention of achievement over the summer? An Academic Learning Time Model of classroom instruction is presented. Design, instrumentation, and data collection methods of this research project are outlined. Analyses of the joint relationships among the variables -- teaching processes, academic learning time, and student achievement -- are presented, as well as analyses of student attitudes and retention of achievement.

*303. Fitz-Gibbon, Carol T., and K.S. Clark. Time Variables in Classroom Research: A Study of Eight Urban Secondary School Mathematics Classes. British Journal of Educational Psychology, v52 pt3 p301-16 Nov 1982.

Describes a research study in which students were observed in eight secondary school mathematics classes and time lost from instructional activities was assessed using a time-filter. A typical child was assessed as devoting slightly more than half the allocated time to time on task. Stability of results is discussed.

**304. Fox, Ronald, and others. Tracing Teacher Effects Through Student Behavior to Learning Outcomes. Paper presented at the annual meeting of the American Psychological Association, Toronto, 1978. 9p. Available ERIC. ED 169 039.

The relationship between teacher characteristics and classroom behavior and the academic achievement of students is examined. Observation focused upon the effect of specific teacher behaviors on student time-on-task in the classroom. It was posited that time-on-task produces gains in achievement, coping skill, self-esteem, and general attitude on the part of the student. Teacher characteristics and classroom behaviors were used to predict student time-on-task. An analysis of results of a year's observation of one sixth-grade class indicated that teacher characteristics do affect children's work habits, in expectable ways, and children's work habits, in turn, affect their learning, self-esteem, and broad coping skills.

**305. Fredrick, Wayne C., and Herbert J. Walberg. Learning as a Function of Time. Chicago: Illinois Univ. Chicago Circle Campus, 1980. 38p. Available ERIC. ED 206 046. Microfiche only.

To examine the relationship between time and in-school learning, the authors review a number of empirical and theoretical studies covering all educational levels. They discuss the methods and interpretations of the empirical studies, the effects of time on learning outcomes and of other variables on time-on-task, and the incidence of diminishing returns to learning from added school or study time. Four methods of measuring time are identified, including years of schooling, days of instruction at school, hours of classes during the day, and minutes of study during class. The authors summarize the effects of these types of time on academic achievement, knowledge, IQ, language and reading level, failure rate, adjustment to school, and attitudes toward education, schoolwork, teaching, religion, and modern life. They also examine two theoretical models relating time to learning: the acceleration model, which allows time to vary until the task is mastered, and the enrichment model, which holds time constant while allowing the amount of learning to vary. From the studies reviewed, the authors conclude that time is a modest predictor of student learning.

*306. Fredrick, Wayne C., and Herbert J. Walberg. Learning as a Function of Time. Journal of Educational Research, v73 n4 p183-204 Mar-Apr 1980.

Studies relating time (in four ranges--years, days, hours, and minutes) to educational outcomes are reviewed. The need to include time as one factor in a theory of educational productivity is discussed.

**307. Fredrick, Wayne, and others. Procedures and Use of Time in Reading Classes in High-Gain and Low-Gain Elementary Schools in Chicago. Paper presented at the annual meeting of the American

Educational Research Association, San Francisco, 1979. 16p. Available ERIC. ED 176 237.

A study of 39 elementary schools in Chicago was conducted to compare two sets of schools, those whose students made above average yearly gains in reading comprehension and those whose students' reading gains were below average. These schools were compared on the proportion of time spent on task, on what the teacher and pupils did during reading instruction, and the rated qualities of the teachers and pupils on subjective measures. The sets of schools did not differ on class size, staffing costs, number of non-English speaking students, experience or education level of teachers, percent of minority pupils, retention rate, reading appropriations, assaults, vandalism, security costs, or suspensions. The proportion of time that reading was the teacher's main task differed significantly and the teachers in high gain schools were rated by observers to have better organized lessons and to be better managers of time. (The classroom observation form used in the study is included.)

*308. Fredrick, Wayne C., and others. Time, Teacher Comments, and Achievement in Urban High Schools. Journal of Educational Research, v73 n2 p63-65 Nov-Dec 1979.

Investigators observed time usage and teacher statements in 26 Chicago high schools and found a lower rate of time loss and a higher rate of positive comments by teachers in higher achieving schools.

**309. Freeland, Kent. Have You Seen Comenius Lately? 1980. 14p. Available ERIC. ED 202 778.

This paper investigates the proper length of instruction in various curriculum areas. The 17th century educator, Johann Amos Comenius, believed that a teacher should be careful not to present too much for a child to learn. A review of the research shows that there are no clear and ironclad answers. Some studies have shown that large deficits in instruction time do lead to lower academic achievement. For example, an all day kindergarten program leads to higher academic achievement than a one half-day program. Other research indicates that added time produces no significant added achievement. One study involved similar courses in which one group was taught for 55 minutes or longer, and a second group for 45 minutes or less. When they took the Iowa Tests of Educational Development, students showed no significant achievement differences. However, some researchers have had mixed findings on increased instruction time. A study of sixth graders showed that 60-78 minute periods did not lead to higher reading achievement when compared to 40-50 minute periods. In the same study, however, 55-60 minute periods did show higher arithmetic achievement when compared to

35-45 minute periods. Also 40-50 minute periods showed higher language achievement when compared to 25-30 minute periods. Other researchers have reported that added instructional time does lead to increased achievement. For example, a California study called Beginning Teacher Evaluation Study has shown that the more time spent in reading or mathematics instruction, the more students learn of that subject. The paper's conclusions include the following. At the elementary level: reading should occupy the largest period of instruction; followed by mathematics; and next language. For the intermediate grades: arithmetic class periods should be closer to 55-60 minutes in length than 35-45; reading classes should be closer to 60-78 minutes than 40-50 minutes; and language classes should be closer to 40-50 minutes than 25-30 minutes.

**310. Gallimore, Ronald, and Roland G. Tharp. KEEP Motivational Research: Strategy and Results. Technical Report #24. Honolulu: Kamehameha Schools. Kamehameha Early Education Project, 1974. 24p. Available ERIC. ED 158 848.

This report briefly summarizes the motivation research strategy and results from the Kamehameha Early Education Program (KEEP). The rationale behind KEEP's use of on-task behavior to measure student motivation is discussed and the two strategies of motivation enhancement researched are described. These two strategies were: (1) staff training in the systematic use of behavior management techniques and (2) classroom formats and organization which increase student attentiveness and productivity. Information is presented on the background for choosing these strategies, the procedures involved in implementing them, and the results of research evaluating their effectiveness in increasing student motivation.

*311. Gambrell, Linda B., and others. Classroom Observations of Task-Attending Behaviors of Good and Poor Readers. Journal of Educational Research, v74 n6 p400-04 Jul-Aug 1981.

From observations of good and poor readers, it is concluded that on-task behavior is not significantly affected by whether reading is independent or teacher-directed. Good readers appear to spend significantly more time on task in contextual reading than do poor readers.

312. Garner, William T. Linking School Resources to Educational Outcomes: The Role of Homework. Research Bulletin, v19 n1 p1-10 Nov 1978.

The results show that, for a substantial number of the classes surveyed, student opportunity to learn shows significant, systematic variation. Variations in time spent in class and time allocated for homework are strongly related to teacher reports of class average ability level.

**313. Garner, William T. Linking School Resources to Educational Outcomes: The Role of Homework. New York: Columbia Univ. Horace Mann - Lincoln Institute for School Experimentation; also HMLI Research Bulletin v19 n1 Nov'78. 12p. Available ERIC. ED 181 048.

Homework assignments are viewed as a kind of resource allocation which should be included in assessing a school's educational resources. Three questions are addressed in this study: average time allocations for student exposure to learning resources in class, through homework, and in total; extent of the variations in these averages; and relationship of the variations to student ability. Data are based on survey responses of mathematics and reading-language arts teachers in grades 5, 8, and 10, in New York City and Connecticut. It is concluded that student opportunity to learn and time allotted to subject matter varies; larger variations are found in time allocated to homework; these variations are related to teachers' reports of the average ability levels of classes. Higher ability classes, as perceived by teachers, are given more exposure to school learning activities. At upper grades, more homework is assigned and learning-related activities are shifted from the classroom to the home. To the extent that student achievement is positively related to home influences, the expected effect of assigning more homework to more able students increases the influence of home background on academic achievement.

*314. Gettinger, Maribeth, and Mary Alice White. Which Is the Stronger Correlate of School Learning? Time to Learn or Measured Intelligence? Journal of Educational Psychology, v71 n4 p405-12 Aug 1979.

Time to learn, intelligence, and school achievement were correlated for fourth-, fifth-, and sixth-grade children. Time to learn was a strong correlate of school achievement. Correlations were lower between time to learn and IQ, and between IQ and achievement.

315. Godbout, Paul, and others. Academic Learning Time in Elementary and Secondary Physical Education Classes. Research Quarterly for Exercise and Sport, v54 n1 p11-19 Mar 1983.

A study investigated the amount of academic learning time students at several Quebec elementary and secondary schools made use of during regular physical education classes. It further explored three major time-related variables: (1) specific content area; (2) learner time engaged with relevant material; and (3) student success rate.

**316. Graden, Janet, and others. Academic Engaged Time and Its Relationship to Learning: A Review of the Literature. Minneapolis: Minnesota Univ. Institute for Research on Learning Disabilities, 1982. 54p. Available ERIC. ED 214 930.

Studies of how children spend their time in school, how teachers' perceptions and student characteristics affect interactions and the use of time in classrooms, and how the concept of time relates to student achievement were reviewed in preparation for an investigation of the extent to which different groups of children have different learning opportunities. The intent was to build a data base to be used in relation to current practices of referring, assessing, and placing students of different learning characteristics. Two areas of relevant research are reported: studies of time in relation to achievement and studies of teacher student interaction and student response as dependent on varying teacher expectations and student characteristics. The research on instructional time is discussed in five categories: (1) quantity of schooling, or time in the school day; (2) teacher reports of opportunity to learn; (3) teacher reports of allocated time; (4) direct observation of allocated time; and (5) student engaged time. A conclusion reviews the results of the literature survey and is followed by a list of references.

**317. Graden, Janet L., and others. Instructional Ecology and Academic Responding Time for Students in Reading Groups. Minneapolis: Minnesota Univ., Institute for Research on Learning Disabilities, 1982. 100p. Available ERIC. ED 224 195.

Twenty-seven second-grade students were observed during two reading periods to examine the nature of instruction and academic responding time for students in high, middle, and low reading groups. Across all groups, it was found that students spent about 20 minutes of a 120-minute typical reading period actively engaged in academic responding, and only about 2 minutes reading aloud and 8 minutes reading silently. Comparisons between high, middle, and low reading groups revealed that, in most respects, reading groups were more similar than they were different in instructional and student responding variables. Findings related to the breakdown of time in a typical reading period and variability among students also are presented. The importance of time engaged in reading as a crucial instructional variable contributing to students' achievement differences in reading is discussed.

**318. Graden, Janet, and others. Instructional Ecology and Academic Responding Time for Students at Three Levels of Teacher-Perceived Behavioral Competence. Minneapolis: Minnesota Univ., Institute for Research on Learning Disabilities, 1982. 108p. Available ERIC. ED 224 189.

Thirty third and fourth grade students were observed over two entire school days to examine the nature of instruction and academic responding time for students of high, middle, and low teacher-perceived behavioral competence. Across all groups, it was found that students spent about 45 minutes in a typical school day actively engaged in academic responding. Comparisons between groups revealed that while the nature of instruction was similar for students regardless of behavioral competence, students in the lower behavioral competence group spent more time engaged in inappropriate behaviors and received more teacher disapproval. No differences were found in total academic responding time for high, middle, and low behavioral competence students. Findings related to the breakdown of time in a typical school day, variability among students, the relationship between student responding time and achievement, and the relationship between behavioral and academic competence also are presented. Implications of findings for understanding the classroom ecology for students exhibiting behavior problems are discussed. The "Code for Instructional Structure and Student Academic Response" observation system is appended.

**319. Greener, Jean W., and others. The Educational Environment and Students' Responding Times as a Function of Students' Teacher-Perceived Academic Competence. Minneapolis: Minnesota Univ., Institute for Research on Learning Disabilities, 1982. 121p. Available ERIC. ED 226 044.

The use of time in school, specifically the portion of time defined as active responding time, has been shown to correlate significantly with achievement. The comprehensive observational methodology of the academic engaged time studies provides the basis for systematically investigating student responding time and elements of the educational environment. Thirty third- and fourth-grade students were observed over two entire school days to examine the educational environment and students' responding times as a function of whether the students had been ranked by their teachers as high, middle, or low in academic competence. Only one statistically significant difference was found among groups: high academic group students engaged in academic talk for a greater amount of time than did low academic group students. In contrast to previous studies, no differences were found in the amounts of teacher praise and criticism or in student time engaged in academic versus inappropriate behaviors. Correlational analyses of engaged times and achievement were inconsistent. Definitions and examples of code for instructional structure and student academic response events and optical scanner coding sheets are appended.

**320. Guida, Frank, and others. Academic Anxiety, Time-on-Task and Achievement: A Structural Model. Paper presented at the Annual Meeting of the American Educational Research Association, Montreal, 1983. 19p. Available ERIC. ED 228 290.

Considerable research has been conducted on the effect of anxiety on academic achievement. The most consistent finding is that high anxiety is associated with low performance, particularly at the elementary school level. To explain this situation, some researchers have hypothesized that anxiety debilitates students' attention span or time-on task thus negatively affecting their achievement. This study tested that hypothesis. The sample consisted of 91 inner city black students between the ages of 12 and 14. The achievement area was seventh grade reading. Two instruments measured each of the three constructs (academic anxiety, time-on-task and reading achievement). A structural equation model tested the association among the variables. The results confirmed the hypothesized negative association between anxiety and achievement and the positive relation between time-on-task and achievement. When the time-on-task parameter was included in the model the association of anxiety with achievement dropped significantly. This finding is taken as evidence for the importance of time-on-task as a mediating variable between academic anxiety and reading achievement.

*321. Guthrie, John T. Research Views: How Much to Read. Reading Teacher, v33 n1 p110-11 Oct 1979.

A study of about 3,000 sixth- and seventh-grade children, conducted by Barbara Heyns, suggests that normal development in reading over the summer requires reading for about one hour a day.

*322. Guthrie, John T. Research Views: Time in Reading Programs. Reading Teacher, v33 n4 p500-02 Jan 1980.

Reviews studies from the Far West Laboratory for Educational Research and Development, drawn together by David Berliner, regarding the amount of classroom learning time spent on reading, and suggests ways to use time effectively to improve reading achievement.

**323. Halasz, Ida M., and Karen S. Behm. Time on Task in Selected Vocational Education Classes. Columbus: Ohio State Univ., National Center for Research in Vocational Education, 1983. 163p. Available ERIC. ED 229 528.

A study was conducted to determine how 11,400 minutes were spent by 186 students in 10 classes in three secondary vocational education program areas (agricultural education, marketing and distributive education, and trade and industrial education) in seven high schools and area vocational schools in four states. The study attempted to find out how much time was spent on task and content as compared with time spent on noncontent and off task time such as breaks and doing nothing. Teachers' time also was recorded by two observers during 99 class periods over two weeks. Some of the findings include: (1) about 56 percent of the class time was spent on content by the students, although teachers allotted about 67 percent of time for content; (2) the proportions of time usage varied greatly among the individual classes as did the amount of time students were absent or late; (3) the amount of time on task spent by students varied widely--more among students in different classes than among students in the same class; (4) students spent the greatest time on task in long classes (146-176 minutes) with fewer students; (5) trade and industrial classes and agricultural classes had greater time on task than the marketing and distributive education classes; and (6) on the average, teachers spent 29 percent of their time providing one-to-one instruction. The study concluded that no typical class represented all vocational education classes. However, baseline data were provided that can be used for further research into how time on task affects student learning in vocational classes.

*324. Harnischfeger, Annegret. Curricular Control and Learning Time: District Policy, Teacher Strategy, and Pupil Choice. Educational Evaluation and Policy Analysis, v2 n6 p19-30 Nov-Dec 1980.

Some issues under the control of districts, schools, and teachers that strongly bear on pupil learning are discussed. The issues are: curricular control, grouping and class size; pull-out programs; teachers' support staffs; school schedules; and homework policies.

*325. Harnischfeger, Annegret, and David E. Wiley. Classroom Control: Room and Time for Improvement. Educational Technology, v18 n5 p27-9 May 1978.

A study of time allocation in urban primary-school settings.

*326. Harnischfeger, Annegret, and David E. Wiley. The Teaching-Learning Process in Elementary Schools: A Synoptic View. Curriculum Inquiry, v6 n1 p5-43 Feb 1976.

Presents a model that represents the teacher's activities as consequences of educational policies and of the teacher's own reflections, and at the same time represents the pupil's achievement as the consequence of his activity and experience.

**327. Hassenpflug, Anna M. The Use and Understanding of School Time by Third Graders: An Ethnographic Case Study. Report from the Project on Studies of Administration and Organization for Instruction. Madison: Wisconsin Univ. Research and Development Center for Individualized Schooling, 1981. 361p. Available ERIC. ED 203 997.

> The major purposes of this study were to determine how individual third graders use and understand school time, to ascertain what relationships exist between their use and perception of school time, and to generate conclusions about third graders' use and understanding of school time that would be relevant for educational administrators and teachers in allocating school time as an educational resource. Data for the study were gathered from observations, interviews, and school records of 43 third graders in two ability-grouped units at one of four schools involved in the Resource Utilization Project of the Wisconsin Research and Development Center. The researcher spent 51 days during the 1979-80 school year observing students at the research site. Both qualitative and quantitative methods were used in analyzing the data. Results are discussed in terms of six categories: (1) formal administrative constraints on scheduling of student time; (2) the actual use and control of student time by administration and faculty; (3) actual use and control of time by students themselves; (4) the actual use and control of student time by students and/or administration and faculty; (5) student perception of blocks of school time and control of school time; and (6) the relationship between friendship patterns and school time usage.

**328. Heller, Marvin, and Joseph Lamberti. Elementary School Time Study. 1981. 10p. Available ERIC. ED 208 384.

> Supporters of the "back to basics" movement have suggested that educators are spending more time on "nonessential" subjects and less time on the basic subjects of reading, writing, and mathematics. To test the validity of this belief, a study was conducted to determine the actual amount of time teachers were giving to each of the basic subjects in the elementary school curriculum. All elementary school teachers in one educational region in Iowa were asked to complete questionnaires that elicited information on grade level taught, classroom arrangement used, and the estimated amount of time devoted to each subject in the curriculum. The results indicated that primary grade teachers spent more time on instruction in the basic skills than did intermediate grade teachers, but the majority of that time was devoted to reading instruction. Intermediate grade teachers, however, spent more time on instruction in arithmetic and writing than did primary grade teachers. In general, the study revealed that teachers were not neglecting the basics.

*329. Hiatt, Diana Buell. Time Allocation in the Classroom: Is Instruction Being Shortchanged? Phi Delta Kappan, v61 n4 p289-90 Dec 1979.

Reports on a study of the effects of teacher aides on the way 25 primary teachers used time in the classroom. The presence of aides increased the amount of time spent on instruction.

**330. Hiatt, Diana Buell, and J. Ward Keesling. The Dependability of Classroom Observations. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, 1979. 32p. Available ERIC. ED 175 929. Microfiche only.

A generalizability study of timed observations was conducted in 25 primary grade classes to observe teachers' use of time--for instruction, evaluation of instruction, and classroom management--according to the hour and day observed. Observational methods used by on-site researchers included videotape, checklists, running documentaries, frequency counts, and continuous time allocation by category of behavior. Critical elements of classroom observation were determined to be the teacher, the situation, the occasion, and the evaluator. Teacher behavior in each of ten categories was observed: (1) clerical; (2) preparation of facilities; (3) preparation of materials; (4) planning for instruction; (5) instruction; (6) evaluating instruction; (7) classroom management; (8) supervision; (9) administration; and (10) not teaching. This study appeared to confirm results reported elsewhere: that a total of between four and six observations of teacher behavior, separated over several days, should provide relatively reliable measures of teacher behavior.

**331. Hoffman, Lee McGraw, and Janella Rachal. The Relationship Between Categories of Classroom Activity and Student Engagement in Reading and Language Arts Instruction. Paper presented at the Annual Meeting of the American Educational Research Association, Montreal, 1983. 28p. Available ERIC. ED 229 744.

To provide a Louisiana State reading improvement program with information that could improve instructional efficiency, a study was conducted to determine the relationship between student time on task and eight broad categories of classroom activities used by teachers during reading and language arts instruction. The eight activities studied were (1) silent reading, (2) oral reading, (3) writing/composition, (4) drill and practice, (5) teacher-led instruction, (6) discussion, (7) tests/quizzes, and (8) noninstructional management. Data were collected by trained observers who viewed a random sample of second, third, and fifth grade classes in eight school systems participating in a state program to develop outstanding reading programs. The results suggested that the eight activities, when examined individually, did not explain a useful amount of variance in student time on task rates. However, taken as a model of classroom activity, they did explain enough variance to warrant further study. Observed correlations among the various activities suggested patterns of teaching behavior during reading and language arts instruction.

**332. Holley, Freda M., and Glynn D. Ligon. Time: Today It Translates to Dollars. Educational Evaluation and Policy Analysis, v1 n3 p109-12 May-Jun 1979.

A study of the loss of instructional time experienced by elementary school students in the Austin Independent School District compensatory education programs resulted in the unexpected findings that both Title I and Non-Title I schools spent more than one-fifth of the school day in noninstructional activities.

*333. Holmes, Mark. What Are You Doing With Your Time? Orbit, v10 n5 p10-11 D'79.

The author describes the findings of an Ontario study of instructional time and academic achievement. The study found statistically significant correlations between achievement and time allocations in French, mathematics, and geography, but no significant relationships in the case of English and history. These findings are discussed in the light of similar findings in large-scale international studies.

334. Holmes, Mark, and Richard Wolfe. Instructional Time and Academic Achievement. Toronto: Ontario Institute for Studies in Education, 1979. 76p.

No annotation available.

**335. Holsinger, Donald B. Time, Content and Expectations as Predictors of School Achievement in the USA and Other Developed Countries: A Review of IEA Evidence. Paper presented at a Meeting of the National Commission on Excellence in Education, New York, 1982. 58p. Available ERIC. ED 227 077.

An overview is presented of the scope and findings of the International Association for the Evaluation of Educational Achievement (IEA) studies, which analyzed student achievement in 22 nations, one of which was the United States. Using these findings, this paper identifies national differences in the performance of pupils representing the United States and other nations which are part of a set of relatively more developed countries. Three principal considerations in the differences found -- time spent on the subject, curriculum content, and student, teacher, and family expectations -- are discussed, along with the principal findings: (1) Among more advanced countries and students, there were no marked deviations in the pattern of achievement test scores; (2) Time given to instruction and opportunity to learn were two key characteristics associated with high test scores and achievement; (3) Curriculum content was consistently and significantly related to achievement scores in the less developed countries and to only a slightly smaller degree in the more developed countries; and (4) Inferences with respect to the place of expectations in student achievement were largely limited to personal expectations and motivation of the individual student.

**336. *Implementation and Recycling. Time Leader's Guide. Basic Skills Instructional Improvement Program*. Philadelphia, Pa.: Research for Better Schools, Inc., 1980. 32p. Available ERIC. ED 193 203.

The improvement of student engaged time leads to instructional improvement. Major steps for improving instruction by improving student engaged time are information collection, comparison of information and identification of strategies, selection and preparation of strategies, and implementation and re-evaluation. This leader's guide covers the topic of implementation and re-evaluation by teaching participants to: (1) assess strategies used in the classrooms; (2) re-examine student engaged time; and (3) introduce the next variable of instructional improvement. Instructional materials to be used in this program are included.

**337. *Information Collection. Time Leader's Guide. Basic Skills Instructional Improvement Program*. Philadelphia, Pa.: Research for Better Schools, Inc., 1980. 278p. Available ERIC. ED 193 200.

The improvement of student engaged time leads to improved instruction and greater academic achievement. Major steps for improving instruction by improving student engaged time are information collection, comparison of information and identification of strategies, selection and preparation of strategies, and implementation and re-evaluation. This leader's guide, designed to cover the topic of information collection, can be used to: (1) teach procedures for information collection on time; (2) train classroom observers; and (3) collect information on allocated time and engagement rate in classrooms. Instructional materials to be used in this program are included.

**338. Isaacs, L.M., and R.G. Stennett. *Increasing "Time on Task" Through a Multi-Method Approach to Reading Instruction. Research Report 79-11*. London, Ont.: London Board of Education.

Educational Research Services, 1979. 8p. Available ERIC. ED 181 404.

Elementary students who have fallen behind their instructional group in reading can increase their rate of acquisition of reading skills through increased "time on task" (the time a learner actually spends attending to the learning task). In a six-month research project, subject students were pretested for reading ability, then grouped under three conditions: cross-age tutoring plus home-based reinforcement; cross-age tutoring, home-based reinforcement, and small group instruction during school hours; and cross-age tutoring, home-based reinforcement, small group instruction, and daily rehearsal of reading skills in their home classroom. Posttesting results indicated that although there was statistically significant improvement in the reading skills of all students over the six-month period, the groups that received additional help did not make any greater gains than the group that was only tutored. Two problem areas in providing additional time on task were uncovered during the project: the problem of implementing cross-age tutoring programs within the school system without the help of additional staff, and the problem of finding an acceptable method of providing additional time on task within normal instructional hours.

**339. Jacobson, Kerry. The Relationship of Individual Student Time Allocation to Reading and Mathematics Achievement. Report from the Project on Studies of Administration and Organization for Instruction. Madison: Wisconsin Univ. Research and Development Center for Individualized Schooling, 1980. 210p. Available ERIC. ED 196 906.

The major purposes of this study were: (1) to determine whether there were differences in student use of time in elementary schools; (2) to determine whether students who spend more time in reading and mathematics classes exhibit greater gains in reading and mathematics achievement; and (3) to determine whether there are quality measures of time which are related to achievement gains. It was hypothesized that the time factors of number of minutes of instruction, number of minutes that the student is on task, and the total amount of teacher time received by the student have no significant relationship with student achievement gains. Data were collected on 200 third grade students at three separate elementary schools in Wisconsin. Time utilization data included classroom observations at three separate periods during the 1979-80 school year. Achievement gains were determined from pretests and posttests. One-way analyses of variance were used to determine the relationships between background characteristics and time allocation measures. Major findings and conclusions include: (1) Significant differences exist in the amount of time available to individual students in reading and mathematics classes. (2) Allocated time in reading and mathematics varies significantly by school. (3) Students with greater amounts of allocated time exhibited significantly greater achievement gains in mathematics. (4) Time on task rates in reading and mathematics are significantly related to the student's school, teacher, and ability level. (5) Individual students receive significantly different amounts of teacher time in reading and mathematics.

**340. Karweit, Nancy. The Organization of Time in Schools: Time Scales and Learning. 1978. 84p. Available ERIC. ED 180 086.

This paper examines the effects of learning time on student achievement. It begins by reviewing what is known about how time is allocated and utilized in schools and the effects of differing amounts of exposure to schooling on achievement. Several theoretical perspectives concerning how time spent affects achievement are briefly discussed. The central focus of the paper is the development of a teacher/learner/task model of the production of learning. Incorporated into this model are three factors: task structure, nonlinear effects, and task organization. Several experiments that use this model in a computer simulation are described. These studied how variations in task structure, pacing of teaching and learning, and timing of teaching and nonteaching intervals affect achievement. The experiments suggest that different teaching strategies are required for learning tasks of different structure, that teaching strategies for producing the maximum average classroom achievement and a minimum level of competence are not the same, and that the timing of teaching and nonteaching intervals alter the effectiveness of teacher and learner. One section of the paper explains the concept of a time scale and its usefulness. A discussion and summary section containing suggestions for future research concludes the paper.

**341. Karweit, Nancy. Time on Task: A Research Review. Report No. 332. Baltimore, Md.: Johns Hopkins Univ., Center for Social Organization of Schools, 1982. Paper presented at a Meeting of the National Commission on Excellence in Education, Washington, 1982. 88p. Available ERIC. ED 228 236.

This report summarizes and evaluates existing studies of time use in schools. The first section describes theoretical views of time and learning. Two issues are discussed: the sources of variation in learning time (actual days per school year, length of school day, absenteeism), and the effects of learning time on achievement. In the second section, a review is presented of major empirical studies of time and learning, concentrating primarily on more recent studies of the effect of time on task. An analysis is given of the results of the Beginning Teacher Evaluation Study, as well as studies of: the effect of pupil attention on achievement; the relationship between concurrent achievement and attention measures; time allocation and achievement; and student response to different teaching methods. Inconsistent effects of time variables on achievement were found in the reviewed studies, and the conclusion is drawn that the effect of time on task on learning, while important, is not substantial. The final section discusses two elements which have been given scant attention in past studies of time on task: the conditioning effect of classroom/school organizational variables, and the dynamic nature of teaching and learning.

*342. Karweit, Nancy, and Robert E. Slavin. Measurement and Modeling Choices in Studies of Time and Learning. American Educational Research Journal, v18 n2 p157-71 Sum 1981.

The consequences of using alternative measures of time and achievement are examined in an observational study of 18 elementary school classes. The extent to which choice of the same model linking time and learning for all students was implicated in the inconsistent results is examined.

**343. Karweit, Nancy L., and Robert E. Slavin. Measuring Time-On-Task: Issues of Timing, Sampling and Definition. Baltimore, Md.: Johns Hopkins Univ. Center for Social Organization of Schools, 1980. 24p. Available ERIC. ED 204 378.

How various methodological decisions may influence studies of the effect of time-on-task on achievement are examined. Subjects were students in grades 2-5 in 18 classes taught by 12 teachers in a rural Maryland school district. All students were pre-tested in February 1978 in reading, language arts, math and social studies using the Comprehensive Test of Basic Skills. A post-test was given in May, 1978. It was found that altering definitions of time-on-task to include momentary off-task behaviors affected the conclusions for the importance of time-on-task. Clear evidence was presented that sampling segments of instruction would tend to obscure the positive results for time-on-task. It was also shown that reducing the number of days of observation weakened the effects of time-on-task. However, the timing of the observation was not very important for the noted effects. The effect of sampling fewer than six students was explored and, due to the effect on reliability, it was suggested that this approach would not be advisable. Results suggested that although there is an understandable urge to lessen the observation time in order to bolster the number of settings observed, such steps should only be taken cautiously.

*344. Karweit, Nancy, and Robert E. Slavin. Time-on-Task: Issues of Timing, Sampling, and Definition. Journal of Educational Psychology, v74 n6 p844-51 Dec 1982.

In time-on-task observations, the effects of variations in methodological characteristics on the importance of time-on-task for student achievement were examined. Substantive conclusions were affected by variations in five areas with the greatest differences due to changes in the duration and number of days of observation.

**345. Karweit, Nancy, and Robert E. Slavin. Time-On-Task: Issues of Timing, Sampling and Definition. 1980. 22p. Available ERIC. ED 198 173.

This paper addresses four issues in the design and execution of behavioral observation in classrooms. These four issues relate to the consequences of using different observation intervals, schedules of observation, student sampling methods, and definitions of on-task and off-task behavior for reliability, means, and correlations of time on-task and achievement. A field study observed 108 students in 18 elementary classrooms. Pre and post-achievement data were also collected. The data permit simulations of different intervals, schedules, sampling methods, and definitions for determination of their effects on the outcomes of behavioral observation. Findings suggested that: (1) altering definitions of time-on-task to include momentary off-task behaviors affected the conclusions for the importance of time-on-task; (2) sampling segments of instruction would tend to obscure the positive results for time-on-task; (3) reducing the number of days of observation also weakened the effects of time-on-task· (4) timing of the observation was not very important for the noted effects; and (5) reducing the number of students to less than six may adversely affect reliability.

346. Kaufman, Betsy B. Education: Language and Snow Days. ETC.: A Review of General Semantics, v35 n4 p425-32 Win 1978.

Proposes that the whole notion of equating time in a classroom with the quality of education is a semantic fiction; describes three perspectives on the learning process in children that provide an alternative to the "fixed schedule" metaphor.

*347. Keith, Timothy Z. Time Spent on Homework and High School Grades: A Large-Sample Path Analysis. Journal of Educational Psychology, v74 n2 p248-53 Apr 1982.

Time spent on homework was found to be important in determining student grades. Further, it was suggested that increased homework demands and more stringent grading standards might increase both student achievement and confidence in schools.

*348. Kemmerer, Frances. The Allocation of Student Time. Administrator's Notebook, v27 n8 p1-4 1978.

Examines a wide range of phenomena that may influence the differential allocation of student time applied to learning.

**349. Klugman, Edgar, and others. Too Many Pieces: A Study of Teacher Fragmentation in the Elementary School. Boston: Wheelock-Malden Teacher Corps Collaborative, 1979. 65p. Available ERIC. ED 178 515.

Fragmentation of elementary school teachers' time and attention is an almost universal problem. Frequent coming and going of children to and from the classroom for legitimate purposes disrupts and distracts the teacher and other students. Children receiving special education services frequently leave the classroom for half-hour periods, thus missing a portion of instruction received by classmates. Administrative interruptions, too wide a span of ability in a single class, and lack of administrative support also create a sense of frustration for the teacher. The results of a comprehensive questionnaire on this topic are reported in this study. Suggestions are made for possible options for classroom teachers, support teachers, and administrators for improving this situation.

350. Kuceris, Misty. Time on the Right Task Can Boost Student Success. Executive Educator, v4 n8 p17-19,26 Aug 1982.

To improve test scores and instructional quality, school districts in New Brunswick (New Jersey) and Adams County (Colorado) implemented programs to increase student time on task. Administrators introducing time on task programs should involve teachers and principals in planning, answer six staff questions, and provide support for necessary changes.

**351. Kuceris, Misty, and Sally Zakariya, (ed.) Time on Task: Using Instructional Time More Effectively. Arlington, Va.: American Association of School Administrators, 1982. 71p. Available ERIC. ED 221 924.

According to this publication, a school's most effective tool in encouraging student success may be its control over the time the student spends working on goal-oriented learning activities--that is, time on task. This document is intended to help school administrators understand the effects of their decisions on students' learning time and improve those decisions. Research on learning time, reviewed in chapter 1, links the amount of learning time with the learning achieved. Chapter 2 discusses disruptions that arise outside the classroom and their effects on learning time; decisions made at the building, district, state, or federal levels may result in unexpected limits on the amount of time allocated for instruction. Chapters 3, 4, and 5 examine forces inside the classroom that can affect time on task: student behavior, teacher behavior, and instructional methods. The final chapter looks more deeply into the implications of the concept of time on task and at the roles of teachers, principals, superintendents, staff development personnel, and communicators in increasing time on task in schools. An appendix provides suggestions on how to develop a program to increase time on task within a school district and includes a step-by-step checklist and observation forms.

**352. Kugle, C.L., and Dick S. Calkins. The Effect of Considering Student Opportunity to Learn in Teacher Behavior Research. Research Report No. 7. Austin: Texas Univ. Research and Development Center for Teacher Education, 1976. 81p. Available ERIC. ED 189 059.

Part of the Evaluation of Teaching Project (EOTP), this research report uses statistical analysis to examine: 1) whether students who had an opportunity to learn classroom material differ in posttest achievement from those students who did not have sufficient time to learn, 2) whether the relationships between teacher behaviors and student achievement differ for different pupil-ability groups, and 3) whether teacher behavior characteristics are related to pupil achievement for students with the opportunity to learn. Thirty-two fifth grade classes were pretested to determine their high, middle, or low learning ability. The 950 students were then taught from the same curriculum guide, rated by their teachers on their opportunity to learn, and tested. It was also found that teacher behavior is an insignificant variable in the prediction of student achievement. Discussion of data and evaluation problems and statistical charts are included.

**353. Lam, David, and others. The Uses and Limits of Increasing Student Motivation. Technical Report #6. Honolulu: Kamehameha Schools, Kamehameha Early Education Project, 1974. 31p. Available ERIC. ED 158 835.

The relationship between Hawaiian children's motivation in school and their teachers' use of contingent social reinforcement was examined in the Kamehameha Early Education Program (KEEP). Student motivation was measured by observation of an unspecified number of subjects' on-task behavior--i.e., how often they worked, attended to the teacher, or behaved as the situation required. Teachers who had received inservice training on the use of contingent social reinforcement were also observed on a regular basis and the frequency of their use of social reinforcement was recorded. Weekly summaries of the rate of positive social reinforcement and the percentage of children on-task were posted publicly. The data collected from these observations showed that the KEEP children's average on-task rate was 90 percent and that the percentage of disruptive behavior declined over the 6-month observation period to the point where an observer would see, on the average, only one child or no children being disruptive in the KEEP class. Although the teachers' rate of positive social reinforcement did not correlate with the children's on-task measures on a day-to-day level, the children's work behavior did show a drastic drop when an inexperienced teacher was present and a return to its previously high level when the original teacher, experienced in the use of social reinforcement, returned. It was thus concluded that the students' high level of motivation was attributable to the teachers' frequent use of verbal encouragement and praise.

354. Lee, Dean R. Exploring the Construct of "Opportunity to Learn." Integrated Education, v20 n1-2 p62-63 Jan-Apr 1982.

Classroom observation and interviews in 55 schools with high concentrations of economically disadvantaged students indicated that more time on instruction, greater correspondence between tests and curriculum material covered in class, and increased on-task behavior (activities related to acquisition of subject matter information) raised student achievement.

*355. Leinhardt, Gaea, and others. Learning What's Taught: Sex Differences in Instruction. Journal of Educational Psychology, v71 n4 p432-39 Aug 1979.

Teacher interactions with second-grade students were coded to investigate sex differences in children's reading and mathematics performance. Results revealed that teachers made more academic contacts with girls in reading and with boys in math and spent relatively more cognitive time with girls in reading and boys in math.

356. Lieberman, Ann. Time on Task: The Aftermath. Journal of Classroom Interaction, v17 n2 p38-40 Sum 1982.

Strategies for informing teachers about academic learning time, the major concept of the Beginning Teacher Evaluation Study, are described. Recommendations include: (1) encouraging a stance of reflection and self-study among teachers; (2) teacher involvement in research, (3) staff development efforts; and (4) appreciation of the complexities of teaching.

**357. Lindelow, John. The Emerging Science of Individualized Instruction. A Survey of Findings on Learning Styles, Brain Research, and Learning Time with Implications for Administrative Action. Eugene, Oreg.: ERIC Clearinghouse on Educational Management, 1983. 46p. Available ERIC. ED 229 827.

Recent advances in instructional knowledge, as well as their usefulness for fitting instructional strategies to individual students, are the subject of this four-chapter survey of research literature. Chapter 1 summarizes research on learning styles--the ways in which individuals perceive, analyze, interpret, and respond to learning situations. Examined in this chapter are cognitive styles, including data reception and concept formation and retention; affective styles, comprising attention, expectancy, and incentive styles; physiological styles, such as developmental and sex- and health-related differences; and practical considerations in the use of instruments to measure learning styles. Chapter 2 covers research on brain lateralization (the location of different functions in the brain's right or left hemispheres), the brain's building of models of reality, and brain growth stages. Learning time research is considered in chapter 3, which reviews findings about time on task and about variations among students in the time needed to master a subject. The final chapter looks at the administrative implications of recent research, noting first the problems with earlier attempts to individualize instruction and then discussing the implications of findings in the three areas of learning styles, brain development, and learning time.

**358. Lomax, Richard G., and William W. Cooley. The Student Achievement-Instructional Time Relationship. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, 1979. 30p. Available ERIC. ED 179 598.

Ten studies investigating the relationship between instructional time and achievement on elementary school reading and mathematics tests were reviewed. The studies involved general classroom research, instructional time research, and attention research. The review indicated that the relationship between academic achievement and instructional time was not as strong as generally believed. It was felt, however, that the relationship would have been stronger if certain methodological problems were reduced. The following suggestions were offered: (1) use engaged time (time-on-task) as a more valid estimate of instructional time than time allocated by teacher logs; (2) use a causal model for achievement to interpret correlations; (3) use achievement tests having a substantial overlap with curriculum; (4) minimize the probability of making a Type I error by not including a large number of variables in the observation; (5) sample as much instructional time as funds permit; (6) minimize data collection errors and ceiling effects and (7) investigate other variables such as sex, socioeconomic status, ability level, grade level, or instructional content; then causal models for achievement can be formulated. (The results of the studies are summarized and compared in tables).

**359. Lysiak, Fae. Time Utilization Study: Classroom Observation 1979-80. Texas: Fort Worth Independent School District. Dept. of Research and Evaluation, 1980. 27p. Available ERIC. ED 189 695.

In 1979 the research department of the Fort Worth Independent School District (Texas) developed a plan for evaluating the utilization of time in elementary schools, middle schools, and high schools. This report deals with the classroom observation undertaken in grades four, seven, and ten. Activities in math and language arts classes were categorized under the following headings: instructional activities, management activities (like taking roll), and classroom interferences. Data obtained were analyzed separately by subject for each grade and were also compiled across grades by subject area. Results showed great variations in the use of time in different classrooms. For example, direct teaching time in the various classes ranged from none to a high of 45 minutes at elementary, 52 minutes at middle school, and 50 minutes at high school. The paper recommends that the middle schools increase their amount of instructional time, decrease the amount of time students spend on applied tasks without teacher aid, and decrease the amount of time spent on management activities.

**360. MacNab, G.L. French Immersion Programs Across Canada: The Influence of Cumulative Amounts of Time, Starting Age and Yearly Time Allotment on the Learning of French. A Review of Evaluations of French Immersion Programs. Research Report 81-12. Ottawa, Ont.: Ottawa Board of Education, Research Centre, 1981. 71p. Available ERIC. ED 218 962.

This paper reviews the results of research on various programs for learning French as a second language from kindergarten to grade 11 or 12 in selected Canadian school systems. Generally, it examines the effects of a number of factors on French learning, such as student selection procedures and student ability, starting age, total amount of time spent using French, continuity of exposure to French, instruments, and other methodological considerations. The introduction provides a brief history of immersion programs in Canada and a review of research on results of these programs. The second chapter provides an overview of French immersion programs across Canada and describes in detail programs in Ottawa, Carleton, Edmonton, Montreal, and Mille Isles. Part III, the longest part of the report, is concerned with what research into the various programs has had to say about what aspects of programs might be most effective in another setting. This review covers the following topics: time allocations and French learning; the Ottawa Board of Education (OBE) French Project Results; methodological notes on tests, research designs, program stage and cohort variation; and study results regarding growth, cumulative time, maintenance, starting age and dosage. The final part of the report summarizes the research and conclusions, and advances hypotheses concerning French learning and maintenance.

**361. Marliave, Richard. Academic Learning Time and Achievement: The Validation of a Measure of Ongoing Student Engagement and Task Difficulty. Paper presented at the annual meeting of the American Educational Research Association, Toronto, 1978. 29p. Available ERIC. ED 160 661.

A model of Academic Learning Time (ALT) is described, where ALT represents ongoing student learning in terms of student engagement, low student error rate, and relevance of the instructional task to the specified outcome. This model was validated in a correlational study of the relationship between these variables and student achievement in reading and mathematics. Achievement tests were administered to 139 second grade and 122 fifth grade students. ALT was measured during the inter-test period by direct observation and with records kept by teachers. These data were used to obtain student engagement rates, student error rates (low, medium, and high), and provided data on the instructional time allocated to specific content areas within reading and mathematics. Allocated time, engagement rate, and low error rate were found to be positively associated with student learning, while high error rate was negatively associated. These effects were generally consistent across both grade and content area. The set of four ALT variables accounted for an average of about 11 percent of the residual variance in achievement. These analyses provide strong support for the relationship of ALT to student learning.

**362. Martin, Oneida, and Althia Canty. Instructional Behaviors that Enable Teachers to Maximize Allocated Classroom Time. Paper presented at the annual meeting of the Mid-South Educational Research Association, New Orleans, 1980. 33p. Available ERIC. ED 206 580.

Data for this study were collected by observing 60 secondary school English classes over a four-month period. The principals of six schools chose 15 of their most effective teachers to be observed. Four questions were addressed: (1) How do teachers and students spend classroom time together?; (2) What instructional processes are used most often?; (3) How much time do these processes require?; and (4) Which instructional processes enable teachers and students to attain educational objectives within the available classroom time? Analysis of the descriptive time narrative logs showed that allocated classroom time and instructional behavior varied among the teachers, although most of the time and behaviors were directed toward explaining a process, addressing questions to a class, repeating student responses, and giving students directions. The conclusions drawn from the study support previous research concluding that teachers who are task oriented and who plan and organize instruction allot more time to academic tasks and activities and that this behavior achieves instructional goals.

363. McLaughlin, T.F., and others. A Timer Game: Effects for On-Task Behavior and Generalization for Academic Behavior for an Entire Special Education Class. Contemporary Educational Psychology, v4 n2 p172-74 Apr 1979.

This investigation determined if a timer, token reinforcement, and consequences for on-task behavior could increase academic output as well as on-task behavior of an entire special education class. The technique was effective in increasing both on-task behavior and generalizing its effects to academic output even 5, 15, or 25 days later.

364. McNamara, David R. Attention, Time-On-Task and Children's Learning: Research or Ideology? Journal of Education for Teaching, v7 n3 p284-97 Oct 1981.

Much effort has been invested in time-on-task research. Time-on-task is described as a proxy term for the notion of "attention," and the findings of time-on-task research are described as less relevant to the classroom teacher than information contained in methods texts.

365. Messick, Samuel, and Ann Jungeblut. Time and Method in Coaching for the SAT. Psychological Bulletin, v89 n2 p191-216 Mar 1981.

Concluded that studies of coaching for the Scholastic Aptitude Test were methodologically flawed but that some definite regularities could be identified. These regularities indicated size of score effects was related to amount of student contact time in coaching programs.

**366. Miley, Alan. Procedures for Classroom Observations: 1973-1974. Technical Report #19. Honolulu: Kamehameha Schools. Kamehameha Early Education Project, 1974. 41p. Available ERIC. ED 158 844.

This report describes classroom observation techniques used to record the behavior of educational specialists (teachers) and students in a kindergarten and a first grade classroom of the Kamehameha Early Education Program (KEEP). Classroom behavior was observed and recorded daily during the 1973-1974 school year. Each student was observed three times during each of three daily observation sessions.

Behavior during these observation sessions was designated as on-task, off-task, or disruptive. Three coding systems were used successively during the year for recording teacher behavior. Difficulties encountered in the first coding system led to the modifications used in systems II and III. Each of these coding systems focused on the teacher's reinforcement of student behavior. The reliability of the teacher and student coding systems was analyzed by comparing the coding records of independent observers.

*367. Moore, J. William, and Judith A. Schaut. Increasing Instructional Effectiveness through the Use of a Problem-Solving Approach to the Design of Instructional Systems. Journal of Experimental Education, v47 n2 p156-61 Win 1978.

Elementary and secondary school teachers were trained to generate effective instructional systems which provided for a greater number of individual students. There was a significant decrease in both the number of students exhibiting inattention and in the mean amount of inattention displayed by students of experimental teachers.

368. Muir, Raquel. A Teacher Implements Instructional Changes. Journal of Classroom Interaction, v17 n2 p13-21 Sum 1982.

A teacher recounts her experiences in adapting the concept of Academic Learning Time (ALT), developed in the Beginning Teacher Evaluation Study, to sixth-grade classes whose students formerly had been instructed individually. ALT was introduced into reading and mathematics instruction. Its effects on student motivation and achievement are reported.

369. Nerenz, Anne. Utilizing Class Time in Foreign Language Instruction. Paper presented at the Central States Conference on the Teaching of Foreign Languages, Minneapolis, April 19-21, 1979. 12p. Not available ERIC. ED 184 360.

Twenty secondary school foreign language classes in Wisconsin were monitored to determine how foreign language class time is used. The target language was used 79% of the time. Teachers made 61% of the target language utterances, suggesting that insufficient time was being spent on student practice. Two percent of class time was devoted to developing listening skills, with the emphasis on listening comprehension at the expense of auditory discrimination. Speaking skills consumed 24% of the time available, most of which was devoted to dialogues and other guided activities. Reading skills practice was monitored only for reading aloud, which took up 6% of class time. Use of English to correct errors during the time could be reduced through the use of pronunciation and auditory discrimination drills. Two percent of class time was devoted to writing instruction. As with speech instruction, most of this time was devoted to structured or guided exercises. Most of the remaining 67% of class time was given over to grammar instruction; this time was characterized by predominance of teacher talk. Finally, 7% of time was spent on cultural activities, 4% on recreational activities, 8% on homework assignments, 7% on testing, and 9% on class management and other activities.

*370. Nerenz, Anne G., and Constance K. Knop. Allocated Time, Curricular Content, and Student Engagement Outcomes in the Second-Language Classroom. Canadian Modern Language Review, v39 n2 p222-32 Jan 1983.

Summarizes research developed from a model of teacher effectiveness and student achievement which focuses on: (1) the amount of time allocated to particular curricular content, and (2) the level of students' active learning time during instruction on that curricular content.

*371. Nevi, Charles N. Cross-Age Tutoring: Why Does It Help the Tutors? Reading Teacher, v36 n9 p892-98 May 1983.

Notes that researchers have generated multiple theories as to why students learn to read better when they tutor others. Surveys several options, then concludes that the answer may lie in the amount of time spent on task in tutoring.

372. Noli, Pamala. A Principal Implements an ALT Program. Journal of Classroom Interaction, v17 n2 p22-27 Sum 1982.

The efforts of a principal who used ideas concerning use of classroom time generated by the Beginning Teacher Evaluation Study to restructure programs at two rural elementary schools are described. Staff development efforts and teachers' reactions are highlighted. Changes in instruction and in scheduling are discussed.

373. Noon, Elizabeth F., and Linda Shalaway. Time on Task. Instructor, v91 n2 p55-59,62 Sep 1981.

Two authors discuss the allocation of classroom instructional and noninstructional time and suggest ways that an elementary teacher can increase students' engaged time and his/her own productivity as a teacher.

*374. O'Donnell, Holly. ERIC/RCS: Instructional Time as Related to Reading Achievement. Reading Teacher, v32 n2 p246-51 Nov 1978.

Instructional time, especially time on task, appears to have a positive relationship to academic achievement.

**375. Pieron, Maurice. Research on Teacher Change: Effectiveness of Teaching a Psychomotor Task Study in a Micro-Teaching Setting. Paper presented at the annual meeting of the American Alliance for Health, Physical Education, Recreation and Dance, Boston, 1981. 8p. Available ERIC. ED 204 293.

A study to identify variables between more or less effective student teachers tested student gains in learning a psychomotor skill. The student teachers were observed as they trained students to perform the "handstand roll over" in physical education classes. Observation focused on content of instruction, skill attempt reactions, management of task engagement, affectivity, and monitoring. It was concluded that time on task reinforces motor learning and depends largely on the teacher's choice of activities. Teachers' interventions and a high rate of success raised the time on task. Teacher effectiveness in producing learning gains was dependent upon the ability to transform time allocated for practice into individual student activity.

376. Placek, Judith, and others. Academic Learning Time (ALT-PE) in a Traditional Elementary Physical Education Setting: A Descriptive Analysis. Journal of Classroom Interaction, v17 n2 p41-47 Sum 1982.

A study analyzed an elementary school physical educator's interactions with students, using the Academic Learning Time-Physical Education instrument. Data were collected to show differences in learning opportunities: (1) for girls and boys; (2) for high, medium, and low ability students; and (3) in different instructional units.

377. Powell, Marjorie. Time Allocations: Teachers Help Determine Curriculum. Educational Horizons, v57 n4 p175-77 Sum 1979.

Presents results from the Beginning Teacher Evaluation Study (BTES) on patterns of instructional time allocations in reading and mathematics in 25 second- and 21 fifth-grade classrooms. Implications of time pattern and subject coverage variations between classrooms are discussed.

**378. Price, Gary G., and others. Procedures Used in Phase I of the IGE Evaluation to Scale the Variable Allocated Learning Time. Report from the Project on Evaluation of Practices in Individualized Schooling. Madison: Wisconsin Univ. Research and Development Center for Individualized Schooling, 1978. 27p. Available ERIC. ED 182 326.

A detailed description is provided of the variable allocated learning time (ALT), which is part of the analysis in phase I of the Evaluation of Practices in Individualized Schooling. The variable is defined; the questionnaires on which the variable is based are listed, the procedures used to scale the variable are explained; the distribution of the variable in the 156 individually guided education (IGE) schools which participated in phase I is described; and the internal consistency of the variable is reported.

**379. Probst, Daniel. A Study of Time On-Task in Three Teachers' Classrooms Using Different Instructional Modes. Report from the Project on Studies of Instructional Programming for the Individual Student. Madison: Wisconsin Univ. Research and Development Center for Individualized Schooling, 1980. 129p. Available ERIC. ED 196 905.

This study investigated differences occurring in student time utilization in three teachers' classes. In Class A, the teacher used a large group instructional mode; in Class B, the teacher used a small group instructional mode; and in Class C, the teacher used an individualized instructional mode. The subjects were 60 eighth grade students from a large urban middle school. A time sampling observation system was used to record student time on task, student time off task, and sanctioned noninstructional time. Students completed a locally constructed mathematics test at the end of the study. Scores from this test were used to classify students in one of three achievement levels: high, middle, or low. Results of comparisons performed on time on task indicated that high and middle achievers spent significantly more time on task than low achievers. No difference was found between high and middle achievers. The comparisons also indicated no significant difference in time on task for any one of the three levels compared between any two of the three teachers' classes. No significant differences were found between any two achievement levels for sanctioned noninstructional time. There were three significant comparisons between achievement levels and sets of teachers' classes. The middle achievers in Class A differed from the middle achievers in Class B, the low achievers in Class A differed from the low achievers in Class B, and the low achievers in Class C differed from the low achievers in Class B.

380. Pusey, Stephen M. "Your Attention Please": A Synthesis of Research on External Interruptions to Classroom Learning. Illinois School Research and Development, v19 n3 p16-23 Spr 1983.

Concludes that while external class interruptions might be a major source of irritation to teachers, they may not have much of a detrimental effect on student learning. Suggests that teachers use nonverbal techniques to cope with such interruptions in order to maintain classroom order and instructional continuance.

**381. Redfield, Doris L., and Daniel L. Roenker. Interaction Effects of Task Variables and Ability on Task Engagement. Paper presented at the annual meeting of the American Psychological Association, Los Angeles, 1981. 11p. Available ERIC. ED 207 038.

Recent research findings have shown a positive relationship between achievement and the amount of time students engage in learning activities. Since the greatest percentage of class time is allocated to seatwork, with worksheets being the most frequently used activity, a study investigated the effects of using three types of worksheet tasks on engaged learning time (ELT) for fifth grade students of three levels of reading ability (high, middle, low). The 134 subjects were assigned to one of three treatment groups: (1) drill, consisting of worksheets composed of multiple choice, true/false, and fill-in-the-blank questions; (2) comprehension, consisting of worksheets designed to promote comprehension of subordinate lesson concepts by requiring analysis, evaluation, or application of the lesson material; and (3) structuring, consisting of worksheets requiring students to locate and write main ideas appearing in the text. The results indicated that low level readers in the drill treatment spent a significantly greater amount of their time on-task than did high level readers in the same treatment. In addition, high and middle level readers assigned to the structuring treatment had a significantly higher engagement rate than did high level readers in the drill treatment. Finally, subjects at each of the three reading levels in the comprehension treatment spent significantly more time on-task than did high level readers in the drill treatment.

382. Rieth, Herbert J., and others. Instructional Variables that Make a Difference: Attention to Task and Beyond. Exceptional Education Quarterly, v2 n3 p61-71 Nov 1981.

Three procedures for increasing the disabled students' academic learning time(ALT)by maximizing allocation time, engagement time, and success rate are discussed, and a direct instructional model for enhancing ALT in both regular and special education environments is described.

*383. Ritzen, Jozef M., and others. Teacher Preferences and the Level and Distribution of Scholastic Achievement. Journal of Experimental Education, v47 n4 p311-19 Sum 1979.

The relationship of teachers' allocation of time to individual student achievement was studied. It was concluded that teachers prefer to increase students' average achievement rather than to decrease the variance in achievement within the classroom.

*384. Roadrangka, Vantipa, and Russell H. Yeany. A Study of the Relationship Among Type and Quality of Implementation of Science Teaching Strategy, Student Formal Reasoning Ability, and Student Engagement. Paper presented at the National Conference of the Association for the Education of Teachers in Science, Chicago, 1982. 30p. Available ERIC. ED 215 896.

To determine which types and qualities of science teaching strategies stimulate students to become involved in learning, middle and high school students (N=147) were observed for time-on-task (time actively spent by the student in learning) and off-task during periods while being taught by five student teachers. The "Teaching Strategies Observation Differential" (TSOD), rating teacher style on a scale from 0-10 (extremes defined as expository/direct and inductive/indirect), was used to measure verbal and non-verbal classroom activities. The quality of implementing strategies (lecture, direction, questioning, demonstration, investigation, response, or teacher guidance) identified by the TSOD was measured by an instrument developed for this study (included in an appendix). In addition, the "Test of Logical Thinking" (TOLT) was administered to determine possible relationships between developmental level and time-on-task. Results indicated that not only the type of teaching strategy, but also the quality of implementing that strategy have an influence on student time-on-task, suggesting that teacher education programs emphasize both a repertoire of strategies and the quality of implementing each type. Results also indicated that there was a relationship between formal reasoning ability and time-on-task, suggesting that teacher education programs also emphasize cognitive development theory and applications of this theory to instruction to facilitate learning.

385. Roecks, Alan L. Instructional Cost and Utilization of Classroom Time for Fifth Grade Students of Differing Achievement Levels. Journal of School Psychology, v18 n4 p381-87 Win 1980.

A study of fifth-grade students showed high achieving students spent less time interacting with teachers, so their instructional cost was lower. Lower achieving students demanded more teacher and aide time, resulting in higher instructional cost. A measure of instructional cost based on productive use of time is proposed.

**386. Roehler, Laura, and others. How Do Teachers Spend Their Language Arts Time? Research Series No. 66. East Lansing: Michigan State Univ. Institute for Research on Teaching, 1979. 23p. Available ERIC. ED 189 620.

A three-month observational study was conducted to determine the time allocated to each subject matter in six elementary school classrooms and the specific time allocations for skills within the language arts and reading curriculum. Teachers recorded their instructional activities through daily self-observation logs and weekly planning schedules, and outside observers conducted weekly full-day classroom observations, giving special emphasis to recording the instructional statements made by teachers. All classroom activities were coded to compare non-instructional and instructional time, subject matter allocations of time, time allocations within language arts activities, and variations in the language arts time allotted to individual students within a classroom. Results indicated that the amount of time spent in language arts instruction, especially in writing, varied considerably across the seven classrooms; that in some classrooms, on certain days, as much as three-fourths of the time was spent in language related instruction; and that integrating the content of language arts with other subject matter varied in its frequency of occurrence across teachers.

387. Rosenshine, Barak V. How Time is Spent in Elementary Classrooms. Journal of Classroom Interaction, v17 n1 p16-25 Win 1981.

Time allocation in the second and fifth grades was divided into three major categories: (1) academic activities such as reading, mathematics, science, and social studies; (2) nonacademic activities such as music, art, and physical education; and (3) noninstructional activities such as transitions and class business. The number of minutes engaged in each category was analyzed.

**388. Ross, Rhonda P. What's Happening in Elementary School Classrooms? A Review of Selected Literature. 1982. 111p. Available ERIC. ED 222 248.

A select portion of the educational management literature is reviewed in the three sections of this paper. The first section discusses literature concerning the amount of time students spend in school. Specific attention is given to the quantity of schooling, the allocation of school time, student engagement in academic tasks, and the relationship of these three variables to learning. The second section describes the kinds of activities elementary school teachers typically conduct in their classrooms. The literature reviewed focuses on the format of lessons (especially the recitation format), the relationship between activity format and behavior, characteristics of lesson formats, the signal system of lessons, pacing of lessons, the structure of the school day, and activity segments. The final section examines two of the major management issues faced by classroom teachers: the management of transitions between activities and the development and implementation of teaching plans. Subtopics discussed in the final section include reducing the length and chaos of transitions through advance preparation, establishment of clear boundaries, use of routines, movement management, and preactive planning.

**389. Saily, Mary. Free the Teacher. Laboratory Helps Educators Break the Bonds That Restrict Their Teaching Time. Washington, D.C.: Council for Educational Development and Research, 1981. 7p. Available ERIC. ED 212 075.

A number of research studies have shown that the factors important to academic achievement are time allocated to instruction, the amount of time students actively engage in learning, and the degree of success they experience while learning. To put this into practice, personnel with the Mid-continent Regional Educational Laboratory (McREL) have pulled together findings from a variety of studies and developed a workshop series to present the findings to local educators. The topics covered depend on the requirements of the schools involved. For example, one way to improve learning is to help teachers develop effective strategies for operating their classrooms during the first few days of school. The workshops begin by having teachers and administrators calculate the amount of time they devote to instructional activities during the typical school day, their students' engagement rates, and their success rates. Then they decide what areas to target for improvement. The McREL workshop series offers teachers and administrators a research-based foundation on which to build a total school improvement effort. It provides tools for assessing current practices as well as strategies for improving building and classroom management and student testing procedures.

**390. Sanford, Julie P., and Carolyn M. Evertson. Time Use and Activities in Junior High Classes. Austin, Texas: Texas University, Research and Development Center for Teacher Education, 1982. 34p. Available ERIC. ED 219 445.

Time use in different activities in junior high school is described, and relationships between class time use and student achievement, behavior and attitude are examined. A total of 102 English and mathematics classes were observed for about 9 hours each. Data included descriptive narratives, time logs, student engagement ratings and observer ratings of student and teacher behavior. Results showed that there is much variation in the way individual junior high school teachers use class time, within a limited number of activity structures. Significant relationships were found between time use and class achievement and attitude in mathematics classes, but not in English classes.

*391. Sanford, Julie P., and Carolyn M. Evertson. Time Use and Activities in Junior High Classes. Journal of Educational Research, v76 n3 p140-47 Jan-Feb 1983.

The relationship between teachers' use of class time and student achievement, behavior, and attitudes was examined in a study of 102 English and mathematics classes in 11 junior high schools. Time use had a measurable effect on student achievement and attitudes in mathematics classes, but not in English classes.

392. Sargent, Laurence R. Resource Teacher Time Utilization: An Observational Study. Exceptional Children, v47 n6 p420-2 Mar 1981.

A time sampling method was compared with estimates of 30 resource room teachers on their time use. Teachers were found to spend less time than they estimated for direct instruction, staffing participation, and individualized educational program involvement.

*393. Saxon, John. Incremental Development: A Breakthrough in Mathematics. Phi Delta Kappan, v63 n7 p482-84 Mar 1982.

A pilot project in 20 Oklahoma public schools during the 1980-31 school year indicated that algebra can be mastered by students of average ability if the material is presented in increments and sufficient time is allotted for understanding to occur.

**394. Schmidt, William H. The High-School Curriculum: It Does Make a Difference. East Lansing: Michigan State Univ. Institute for Research on Teaching, 1981. 93p. Available ERIC. ED 213 093.

The question examined in this paper is whether variability in the quantity of schooling students receive in different curricular areas is a contributor to observed differences in achievement not only among students attending different high schools, but among students in the same high school. A conceptual framework enumerates the determinants of achievement, including school and community characteristics, student background, and quantity of schooling in the specific curricular areas of mathematics, English, foreign language, fine arts, social studies, and science. The sample used was 9,195 high school seniors in 725 schools taken from the National Longitudinal Study of the High School Class of 1972, a nationally representative probability sample of high school seniors. The results suggest that quantity of schooling has a positive effect on academic achievement. The more the achievement is school-related, the larger is the resulting effect of the quantity of schooling. This was especially true for mathematics. Quantity of schooling also had positive effects on achievement in science and English; less clear results were found in the areas of vocabulary and reading comprehension, although quantity of schooling did continue to have a positive effect on achievement.

*395. Schneider, E. Joseph. Success in Student Learning. *American Educator*, v4 n3 p10-13 Fall 1980.

The Beginning Teacher Evaluation Study, conducted by Charles Fisher, shows that students achieve more when they spend a relatively large amount of time on tasks that they can perform successfully. Teachers can enhance learning by structuring student time around high success rate tasks.

**396. Seifert, Edward H., and John J. Beck Jr. *Time/Learning Relationships in Secondary Schools: A Research Report*. 1983. 45p. Available ERIC. ED 229 853.

Sixty students in 10 classrooms in 5 high schools were extensively observed over a 10-week period during the fall semester of 1982. Based on pre- and posttests to measure achievement gain on algebraic objectives and change in attitude, the study investigated the relationships between student achievement and variables of student behavior, instructional strategy, and time on task. In addition to the text, the data are illustrated in nine charts. Significant positive relationships were found between achievement gain and the lecture/discussion method, the amount of time students spent on tasks related to the learning objective, and students' total engaged time. Significant negative relationships were found between academic gain and directed study strategy, the amount of time students spent on tasks not related to the learning objective, and students' total unengaged time, including waiting for help. A significant positive relationship was found between the lecture/discussion strategy and the amount of time students spent on task. Achievement gains for individual classrooms were significantly related to minutes of time on task per classroom. Implications of these findings for teachers and administrators are discussed.

**397. *Selection and Preparation. Time Leader's Guide. Basic Skills Instructional Improvement Program*. Philadelphia, Pa.: Research for Better Schools, Inc., 1980. 107p. Available ERIC. ED 193 202.

The improvement of student engaged time leads to improvement in instruction. Major steps for improving instruction by improving student engaged time are information collection, comparison of information and identification of strategies, selection and preparation of strategies, and implementation and re-evaluation. This leader's guide covers the topic of selection and preparation of strategies by teaching participants. It describes how to: (1) select a strategy; (2) plan the strategy's implementation; and (3) assess the strategy's effectiveness. Instructional materials to be used in this program are included.

398. Shephard, Roy J., and others. Curricular Time for Physical Education? A Controlled Experiment in French Canada Asks How Much Curricular Time Should be Spent on Physical Education. Journal of Physical Education, Recreation and Dance, v53 n9 p19-20,28 Nov-Dec'82.

A controlled experiment conducted in Canada, the Trois Rivieres regional experiment investigated the effects of increased physical education instruction on elementary school students. Results indicate that more time can be spent in physical education and that the increased time may result in improvement in other academic areas.

399. Simons, P.R.J. How We Should Control Time On Task--Or Should We? Instructional Science, v11 n4 p357-72 Jan 1983.

Discusses methodological problems regarding time-on-task in experiments in which effects of extra study aids are evaluated. Illustrations of different methods of studying learning aids and their effects on the outcome are based on six experiments into the influence of concrete analogies on learning. Seventeen references are provided.

**400. Sirotnik, Kenneth A. The Contextual Correlates of the Relative Expenditures of Classroom Time on Instruction and Behavior: An Exploratory Study of Secondary Schools and Classes. A Study of Schooling in the United States. Technical Report Series, No. 26. Los Angeles: California Univ. Graduate School of Education, 1981. 61p. Available ERIC. ED 214 894.

The premise for an exploratory study of classroom instructional activities was that a positive and substantial correlation exists between achievement and instructional time. The proportion of time that teachers spent on instruction was compared to time devoted to student discipline and control. Three contextual variables were measured through questionnaires completed by students and teachers in secondary school classrooms: (1) teacher demographic and personal perceptions; (2) aggregated student perceptions of class climate, instructional practices, and course content; and (3) demographic characteristics of students. Trained observers recorded teacher student interactions in the classroom, focusing on who was doing what to whom, how, and in what context. The findings have implications for future educational research. Data suggest that time spent by teachers on behavior management may be easier to predict than the time spent on instruction. There appear to be sufficiently important differences between senior and junior high school classes to warrant studying them separately to understand "quantity of schooling" hypotheses at the secondary school level. The need for control of differences between subject areas when analyzing classroom time variables emerged as an important factor, although the reason for this was not clear. A weak association was found between most teaching variables and the proportion of class time spent on instruction and behavior. Tables are appended showing the data found for each variable.

*401. Sirotnik, Kenneth A. The Contextual Correlates of the Relative Expenditures of Classroom Time on Instruction and Behavior: An Exploratory Study of Secondary Schools and Classes. American Educational Research Journal, v19 n2 p275-92 Sum 1982.

This study follows from the premise that there is a positive and substantial correlation between achievement and instructional time. Specifically, the author describes multivariate relationships existing between proportions of time spent on instruction and behavior in the classroom, and six potentially important contextual variable subsets.

*402. Smith, Nancy McKnight. Allocation of Time and Achievement in Elementary Social Studies. Journal of Educational Research, v72 n4 p231-36 Mar-Apr 1979.

Time allocated for social studies instruction showed a very slight correlation with fifth graders' achievement in that subject, suggesting that "allotted time" should be carefully qualified when used as a variable in assessing instruction.

*403. Smyth, W. John. Pupil Engaged Learning Time: Concepts, Findings and Implications. Australian Journal of Education, v24 n3 p225-45 Oct 1980.

Recent research has substantiated long-standing beliefs of classroom teachers about the relationship between pupil engagement and achievement; one of these is that increased pupil involvement or attention to the learning task increases learning. Additionally, consistent teaching behaviors and classroom variables are frequently associated with engagement in learning tasks, or "academic learning time."

**404. Stallings, Jane A., and Georgea G. Mohlman. Effective Use of Time in Secondary Reading Classrooms. Paper presented at the annual meeting of the International Reading Association, Chicago, 1982. 21p. Available ERIC. ED 216 343.

A study was conducted to identify effective instructional strategies being used to teach reading at the secondary school level. In the first phase of the study, researchers observed 43 secondary school remedial reading classrooms to determine the relationships between teaching processes and students' gain in reading. In the second phase, the researchers provided workshops for the teachers observed, using the effective strategies found in the first phase. In the third phase, the researchers monitored the teachers instructed in the second phase as they conducted further workshops. Data for the first phase were collected from pretest and posttest scores, observation of teacher behaviors, a teacher questionnaire, a classroom environment scale, and previous reading achievement test data. The data showed that teachers who spent more time organizing during class periods and were not directly involved with students had students with a lower reading gain. A negative relationship was also found between reading gain and teachers offering students a number of choices about materials and activities. Outside intrusions were also negatively related to reading gain. The results subsequently indicated that students made greater reading gains in classrooms where the teacher provided more interactive or oral instruction and where students frequently read aloud. Analysis of similar data taken from the second and third phases of the project indicated that the workshops helped teachers change their behaviors as recommended.

405. Stanley, Sandra O., and Charles R. Greenwood. How Much "Opportunity to Respond" Does the Minority Disadvantaged Student Receive in School? Exceptional Children, v49 n4 p370-73 Jan 1983.

Analysis of academic responding and its instructional correlates for fourth graders in Title I and non-Title I schools revealed that instruction in both groups provided relatively infrequent amounts of academic responding time. This time was significantly lower among minority students in Title I schools.

**406. Stennett, R.G., and L.M. Earl. Elementary French Program Evaluation: The Effect of Successive Increases in Instructional Time. Research Report 82-01. London, Ont.: London Board of Education, Educational Research Services, 1982. 42p. Available ERIC. ED 221 042.

Studies have been undertaken in London, Ontario to assess the effect of increased instructional time in French on grade 8 students' achievement in French language skills. Fifteen eighth grade classes were selected to produce a sample of approximately 400 students. Two subsamples of approximately 150 students each were randomly selected to receive different individually administered tests. French language and attitude tests were administered, and results were obtained of student achievement tests. Only data from students who had been exposed to the "standard French program" were included. Results are presented separately for each set of tests taken by a common group of students. Comparability of groups of students who received the same set of tests is assessed separately. In general, data analysis revealed that increasing the amount of instructional time produced significant improvements in most aspects of students' achievement in French. Students have shown increasingly positive attitudes toward learning French and less anxiety, as well as improved knowledge of French culture and more positive attitudes toward French Canadians. However, students' performance in pronunciation did not improve with increased instructional time and there was no systematic increase in performance on French listening comprehension. Numerous statistical tables are included.

**407. Stennett, R.G., and L.M. Isaacs. Elementary French Program Evaluation: Impact of Increased Time for French on Achievement in English and Mathematics. Ontario: London Board of Education. Educational Research Services, 1979. 9p. Available ERIC. ED 189 856.

Successive samples from among students enrolled in French in grade 8 of the Ontario public schools were given English usage and mathematics concepts tests. Results revealed that an increase from 20 to 40 minutes per day of French instruction had no significant effect on students' achievement in English or mathematics.

**408. Stennett, R.G., and Lorna Isaacs. Elementary French Program Evaluation: The Effect of 40 vs. 20 Minutes per Day in Grade 8. Ontario: London Board of Education. Educational Research Services, 1979. 42p. Available ERIC. ED 189 855.

Students enrolled in elementary French at grade 8 of the Ontario school system were tested to determine whether a lengthening of the daily session devoted to French from 20 to 40 minutes resulted in increased proficiency. Data make it apparent that increasing the amount of instructional time has produced a significant improvement in students' linguistic skills. The trend of the data is for students who have had more instruction to be more positive in their attitude toward learning French and less anxious about participating actively in their French classes. Increased instructional time, however, did not produce either a more favorable attitude toward French Canadians or increase students' knowledge of the French culture. Data developed from monitoring the adequacy of program implementation indicate that the observed differences in student achievement cannot be attributed to changes in the general quality of instruction.

**409. Talmage, Harriet, and Sue Pinzur Rasher. A Study of the Effects of Three Dimensions of Instructional Time on Academic Achievement. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, 1979. 21p. Available ERIC. ED 173 327.

In examining three dimensions of instructional time (teacher preparation time, student homework time, direct in-class instructional time), the objectives of this study were to determine which dimensions or combination of dimensions correlate with achievement, and whether the dimensions differentially affect achievement based on grade and ability level. Elementary students were given instruction in a nutrition curriculum over a three-month period. Time data were analyzed by activity, with a posttest nutrition achievement test as the dependent variable and the three time dimensions, grade, and ability levels as independent variables in a series of stepwise multiple regressions. Direct instruction consistently predicted posttest achievement.

**410. Tedesco, Lisa A., and others. School and Classroom Processes: A Secondary Analysis. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, 1979. 10p. Available ERIC. ED 179 599.

The conclusions are reported of a survey of aspects of school and classroom environments and their effects on student achievement as these effects were indicated by data from the International Association for the Evaluation of Educational Achievement (IEA) study of schools in the United States. Only the resource levels and activities generally available in the school as a whole could be investigated. Subjects were 10 or 14 years old or were high school seniors. No association was found between achievement levels and either hours of school per week or weeks of school per year; but hours in specific subject areas had consistent positive relationships with achievement and often with positive attitudes in those areas. There appeared to be threshold levels of resources below which adequate school achievement could not be accomplished; but schools with high resource levels exhibited a full range, low through high, of achievement. The relationships between achievement and student activity or participation, degree of structure, and amount of evaluation activity in the schools were complex.

**411. Thurlow, Martha L., and others. Academic Responding Time for LD and Non-LD Students. Minneapolis: Minnesota Univ., Institute for Research on Learning Disabilities, 1982. 125p. Available ERIC. ED 224 188.

Thirty-four third and fourth grade students were observed over two entire school days to examine the nature of instruction and academic responding time for LD and non-LD students in regular classrooms. Across students, a typical school day was characterized by a limited amount of academic responding (about 45 minutes). Comparison of LD and non-LD students revealed that, while there were no differences in time allocated to instruction, there were differences in the type of instruction received, with LD students receiving more individual instruction and more teacher approval than non-LD students. LD students were engaged in five of seven academic responses for greater amounts of time than non-LD students, while non-LD students were engaged in one academic response for a greater amount of time than LD students. However, there were no differences in the total academic responding times of the two groups of students. Findings related to variability among students and relationships between responding times and achievement also are presented. The implications of the findings for instruction and for special education decision making are discussed. The "Code for Instructional Structure and Student Academic Response" observation system is appended.

**412. Thurlow, Martha L., and others. Academic Responding Time for LD Students Receiving Different Levels of Special Education Services. Minneapolis: Minnesota Univ., Institute for Research on Learning Disabilities, 1982. 127p. Available ERIC. ED 224 194.

Twenty-six elementary grade learning disabled (LD) students were observed over two entire school days to examine the extent to which students in different service delivery levels were provided with varying instructional approaches and opportunities to learn. Several differences were found in instructional approaches: less severely learning disabled students were allocated more time for academic activities, entire group teaching structures, and no teacher response than were more severely learning disabled students, who were allocated more time for other media, individual teaching structures, and teacher approval. However, few differences were found in students' opportunities to learn through active academic responding: less severely learning disabled students engaged in silent reading for greater amounts of time than more severely learning disabled students, but they also spent more time in inappropriate student responses. Academic responding time was low for all students, averaging less than 45 minutes per day, and variability among students was large, even within one service delivery level. Relationships among student response times and achievement gains generally confirmed the positive relationship between active academic responding and achievement and the negative relationship between inappropriate responding and achievement. The implications of the findings for service provision to LD students are explored.

**413. Tobin, Kenneth G., and William Capie. The Relationships of Selected Dimensions of Teacher Performance with Student Engagement. Paper presented at the annual meeting of the Mid South Educational Research Association, New Orleans, 1980. 54p. Available ERIC. ED 194 521.

Six variables have a significant effect on student engagement rates in middle school science activities: (1) teacher wait-time; (2) quality of teacher questioning; (3) cognitive level of teacher behavior; (4) classroom management; (5) student formal reasoning ability; and (6) student locus of control. Data suggest the importance of formal reasoning ability and locus of control as student attributes that affect engagement. Engagement rates appear to be enhanced when teacher questions are relevant, clear, and focused at a variety of cognitive levels. Higher rates of student engagement are associated with higher measures of classroom management and teaching behaviors that are at a higher cognitive level.

414. Wang, Margaret C. The Development of Student Self-Management Skills: Implications for Effective Use of Instruction and Learning Time. Educational Horizons, v57 n4 p169-74 Sum 1979.

Described is the development of the Self-Schedule System, which aims at optimizing instructional time by teaching students to manage their own time and tasks. Program components for training students and for providing structural and ecological supports for flexible usage of school resources are outlined and research findings discussed.

415. Wang, Margaret C. Maximizing the Effective Use of School Time by Teachers and Students. Contemporary Educational Psychology, v4 n3 p187-201 Jul 1979.

The effectiveness of an instructional-learning management system designed to minimize the time needed for students to complete specified learning tasks and to maximize the opportunity for the individual students to complete the tasks is investigated. Instructional design makes use of teacher's and student's school time more effective.

416. Webb, Noreen M. Review of "Time to Learn": Instructional Processes. Journal of Classroom Interaction, v17 n2 p28-31 Sum 1982.

This review focuses on the relationship between instructional processes and student behavior as presented in "Time to Learn," a description of processes, findings, and implications from the Beginning Teacher Evaluation Study. Attention is given to chapters concerning data collection, relational and descriptive processes, and limitations of the study.

*417. Wyne, Marvin D., and Gary B. Stuck. Time and Learning: Implications for the Classroom Teacher. Elementary School Journal, v83 n1 p67-75 Sep 1982.

Reviews research studies which deal with the relationship between the time students spend engaged in learning and their subsequent achievement performance, and examines the emerging implications of these studies for the classroom teacher.

418. Wyne, Marvin D., and Gary B. Stuck. Time-on-Task and Reading Performance in Underachieving Children. Journal of Reading Behavior, v11 n2 p119-28 Sum 1979.

Examines the effects upon reading achievement of increasing time-on-task in underachieving children.

419. Young, Timothy W. Teacher Stability in Seventh and Eighth Grade Classrooms. Journal of Classroom Interaction, v16 n1 p30-32 Win 1980.

A process-product study examined the relationship between the percentage of teacher time on task and the percentage of teacher-centered instruction and the achievement of seventh- and eighth-grade students.

6. MASTERY LEARNING

*420. Abrams, Joan D. Mastery Learning in a Smaller School System. *Educational Leadership*, v37 n2 p136-39 Nov 1979.

Administrators in Red Bank, New Jersey, are confident that mastery learning is the key to their students' higher achievement.

421. Aldridge, Bill G. A Mathematical Model for Mastery Learning. *Journal of Research in Science Teaching*, v20 n1 p1-17 Jan 1983.

Discusses a mathematical model for mastery learning. The model includes measures of a motivational factor and the specific ability of a learner with respect to content being learned. The model also contains a variable reflecting prior learning. Assumptions/limitations are discussed, and research questions raised.

**422. Anderson, Lorin W., and Beau Fly Jones. *Designing Instructional Strategies which Facilitate Learning for Mastery*. Paper presented at the annual meeting of the American Educational Research Association, Los Angeles, 1981. 42p. Available ERIC. ED 202 892.

The "state of the craft" of instruction within the context of the mastery learning model is discussed. Little has been said in the past about specific instructional strategies that are applicable to particular instructional units or objectives, or to the daily classroom life of teachers. This paper is organized into six major sections. The first section outlines the general instructional conditions and procedures described in books and articles dealing with mastery learning. The second section discusses two aspects of the initial group-based instruction: teaching to objectives and the use of appropriate teaching methods or presentations. The third section focuses on the importance of proper sequencing of instructional activities and units. The fourth section presents information concerning corrective instruction. The fifth section briefly details the types of enrichment activities used in existing mastery learning programs. Finally, the sixth section presents ideas concerning the role of classroom management in complementing a mastery learning instructional program. Many of the instructional strategies described are those which research indicates are related to increased student involvement in learning and/or increased student achievement.

*423. Arlin, Marshall. Teacher Responses to Student Time Differences in Mastery Learning. American Journal of Education, v90 n4 p334-52 Aug 1982.

Presents a model for analyzing teachers' time allocation procedures in collective instruction along with a qualitative analysis of 10 elementary school teachers' implementations of short sequences of mastery learning. Sequences illustrate possible ways teachers adjust conditions that are formulated in the model.

*424. Arlin, Marshall. Time, Equality, and Modified Mastery Learning. Vancouver: Educational Research Institute of British Columbia, 1982. 20p.

No annotation available.

*425. Arlin, Marshall, and Janet Webster. Time Costs of Mastery Learning. Journal of Educational Psychology, v75 n2 p187-95 Apr 1983.

Eighty-eight seventh grade students were randomly assigned to mastery or nonmastery approaches to learning four hierarchical chapters about sailing. The price of increased achievement benefits of group-based mastery learning seems to be increased time costs of (1) extra remedial time and (2) "wasted time" of faster learners.

426. Arricale, Frank C., II. A Case for Chicago Mastery Learning Reading. Learning, v11 n7 p92-94 Feb 1983.

A Brooklyn (NY) district superintendent rebuts arguments against the Chicago Mastery Learning Reading (CMLR) program that appeared in an article in Learning (November 1982). Based on his district's experience with CMLR, the superintendent points to improved reading scores, teacher enthusiasm, and renewed student interest in reading as indications of the program's worth.

427. Bezruczko, Nikolaus, and Larry H. Ludlow. The Alterability and Measurement of Learning Rates. Studies in Educational Evaluation, v7 n1 p97-104 1981.

A causal cognitive model illustrates that joint influence of home environment with cognitive and affective entry constitute the antecedent conditions for observed learning rate. The quality of instruction defines entry behaviors. As conditions of learning improve, the time necessary for learning decreases and the degree of learning increases.

*428. Burkman, Ernest, and Michael Brezin. Effects of Expectation Level on Achievement in High School Physical Science Courses (ISIS) Employing a Quasi Mastery Teaching Method. Journal of Educational Research, v75 n2 p121-26 Nov-Dec 1981.

The effects of a modified mastery learning system on achievement in an individualized high school physical science course are examined. Results indicate that a medium performance standard was superior to both high and low standards for promoting achievement in both difficult and easily learned materials.

**429. Cohen, S. Alan. Effective Curriculum and Instruction: The Instructional Psychologist's View. 1981. 35p. Available ERIC. ED 226 417.

Effective curriculum is based on a mastery learning model. According to Carroll's mastery learning model, learning rate is partially a function of student "perseverance" or time on task, which is in turn determined by a learner's entering repertoire and the quality of instruction. Although the mastery-learning model looks simple, its execution is enormously difficult. Difficulties include designing scope and sequence of curriculum, varying instructional time to fit different learning rates, varying content and level, and sustaining administrator commitment. Since implementing mastery-based curriculum is so difficult, it is often distorted into more traditional curriculum. This means that mastery-based, assessment-driven curriculum is often distorted into time-based, assignment-driven curriculum. At the curricular level, this distortion is evidenced by such things as low motivation, tests that do not truly measure mastery, and traditional grading. At the instructional level, the seven criteria for mastery learning are often distorted. These criteria include precise definition of instructional objectives, direct instruction, immediate feedback, appropriate level of instruction, modular learning, stimulus control, and critical response. Although research shows mastery learning to have superior results, it will not be successful in schools unless its distortions are eliminated.

**430. Cotton, Kathleen, and W.G. Savard. Mastery Learning. Topic Summary Report. Research on School Effectiveness Project. Portland, Oreg.: Northwest Regional Educational Lab., 1982. 101p. Available ERIC. ED 218 279.

This report synthesizes findings emerging from research on mastery learning. Thirty-three documents were retrieved and analyzed for the report. The documents were concerned with mastery learning research at various levels, from elementary through postsecondary education. Specific subject areas which were the partial or total focus of the reports included: mathematics; science;

reading and language arts; social studies; geography; consumer economics; history, auto mechanics; and shop. The introduction to this report offers a review of the features of mastery learning and defines mastery learning as "a strategy which seeks to raise student achievement by increasing the amount and quality of the time students spend pursuing learning activities." A discussion is included on arguments for and against the mastery teaching strategy. A general overview is presented on the effects of mastery learning on student achievement, retention, and attitudes, and recommendations for future practice are made, based on the research.

**431. Denton, Jon J., and Jo Ann G. Seymour. Acquisition of Higher Order Intellectual Skills Through a Mastery Learning Paradigm. 1977. 19p. Available ERIC. ED 167 484.

This investigation was structured to determine if the acquisition of higher order intellectual processes is tenable for teaching candidates when the independent variables are unit pacing and different remediation strategies for mastery learning. Teaching candidates enrolled in a generic teaching methods course constituted the sample. Nearly half of the participants were concurrently enrolled in student teaching which began six weeks into the semester as a full day-full time experience. The remaining subjects were enrolled in one of two conventionally scheduled courses that met for the entire semester for three one-hour sessions per week. The beginning and conclusion of this study was signaled by the administration of a higher order cognitive achievement test. Treatment variation with respect to remediation strategies for mastery learning occurred after the formative test was administered for each unit. The significant finding in this investigation suggests that compressing the curriculum experiences into a time period that decreases the number of days, but not the actual class hours devoted to curriculum components, reduces performance with respect to higher order cognitive skills.

**432. Dillashaw, F. Gerald, and James R. Okey. The Effects of a Modified Mastery Learning Strategy on Achievement, Attitudes, and On-Task Behavior of High School Chemistry Students. Paper presented at the annual meeting of the National Association for Research in Science Teaching, Ellenville, N.Y., 1981. 23p. Available ERIC. ED 201 515.

This study explored the effects of a modified mastery learning strategy as well as locus of control and aptitude on achievement, attitudes, and on-task behavior of high school chemistry students (N=156). Mastery learning in this study was modified to limit diagnosis and remediation to two cycles. Three treatment groups were included: (1) contrast (no diagnostic/remediation procedures); (2) student-managed remediation (students selected their own remediation following diagnosis); and (3) teacher-managed remediation (teachers assigned remediation based on diagnostic test results). Results showed that the modified mastery learning strategy influenced on-task behavior and achievement indicating that high school chemistry teachers may successfully employ such a strategy to increase the on-task behavior and achievement of their students. Lack of significant differences between the two experimental groups suggested that assigned remediation may not be necessary to bring about achievement gains; simply having remediation available for students to use on their own may be sufficient.

433. Dillashaw, F. Gerald, and James R. Okey. Effects of a Modified Mastery Learning Strategy on Achievement, Attitudes, and On-Task Behavior of High School Chemistry Students. Journal of Research in Science Teaching, v20 n3 p203-11 Mar 1983.

Results of modifying mastery learning strategy to two diagnostic cycles with high school chemistry students (N=156) indicated that achievement of mastery learning students was significantly greater than that on nonmastery learning students. Attitudes toward science/science instruction were not significantly different but were positive in both mastery/nonmastery conditions.

**434. Grabe, Mark. Achievement Motivation as a Predictor of Effort and Achievement in a Mastery Learning Course. Paper presented at the annual meeting of the Midwestern Psychological Association, 1979. 23p. Available ERIC. ED 176 174.

An approach to evaluating the appropriateness of student effort within a mastery instructional system was developed, and the interrelationship of achievement motivation, effort and achievement was investigated. In support of a prominent theory of classroom learning, appropriate effort was strongly correlated with student achievement even when differences in student aptitude were controlled. Finally, achievement motivation was shown to be related to both the effort and achievement variables. A path analysis indicated that the influence of achievement motivation on achievement was determined primarily by the relationship of achievement motivation and effort.

435. Grabe, Mark. Effort Strategies in a Mastery Instructional System: The Quantification of Effort and the Impact of Effort on Achievement. Contemporary Educational Psychology, v7 n4 p327-33 Oct 1982.

A modified mastery system was developed to provide a mechanism by which a student's willingness to expend needed effort could be assessed. It was possible to demonstrate that the effort variables accounted for differences in student achievement beyond the impact of differences in student aptitude.

**436. Guskey, Thomas R. The Influence of Change in Instructional Effectiveness upon the Affective Characteristics of Teachers. Paper presented at the annual meeting of the American Educational Research Association, New York, 1982. 27p. Available ERIC. ED 213 704.

The influence of positive change in instructional effectiveness upon several affective characteristics of teachers was investigated. The focus of the study was upon the influence this change in effectiveness might have upon measures of teachers' feelings of responsibility for student achievement, feelings toward teaching, and teachers' self-concept. Fifty-two secondary school teachers participated in a workshop on mastery learning techniques. They agreed to teach two classes in the same subject area and grade level during the school term following their training. One of these classes was to be taught using mastery learning (mastery group), the other to be taught by whatever methods the teacher typically employed (control group). Before the workshop sessions, the teachers were given a three-part questionnaire on their feelings of responsibility for student achievement, their feelings toward teaching, and their confidence in their teaching ability. Following the school term, the teachers were again tested, and the achievements of their mastery and control students were evaluated. A high percentage of the teachers were found to have experienced positive change in their instructional effectiveness through mastery teaching. An analysis of results indicated that, as the teachers became more effective in their teaching, they tended to accept greater responsibility for the learning outcomes of their students and to like teaching much more but, at the same time, expressed diminished confidence in their teaching abilities. In post-testing, the teachers who chose not to use the mastery techniques expressed increased confidence in their teaching but revealed increasingly negative feelings about teaching. The implications of this study for inservice education are discussed.

**437. Hymel, Glenn M. An Instructional Design Model for Guiding Mastery Learning Research and Development Efforts. Paper presented at the Annual Meeting of the Mid-South Educational Research Association, Lexington, Kentucky, 1981. 27p. Available ERIC. ED 222 527.

Proposed is a comprehensive instructional design model which (1) suggests a systems-based approach to preparing, implementing, and evaluating instruction at the program syllabus, course syllabus, and instructional unit levels; (2) subsumes those various dimensions of a mastery learning strategy which encompass preconditions, operating procedures, and anticipated consequence; (3) relates the generic activities of instructional design to those essential elements comprising a mastery learning strategy; (4) provides a broad-based context for interpreting completed and on-going research and development efforts in mastery learning; and (5) represents a multidimensional framework for guiding future basic and applied research as well as the subsequent development efforts in mastery learning. Areas of congruence between generic activities in instructional design and essential components in a mastery learning strategy, as well as additional activities mandated by any comprehensive instructional design effort, have provided the basis for identifying possible variables of an independent, moderator, dependent, and intervening nature which might be considered in future mastery learning research and development endeavors.

**438. Hymel, Glenn M. Managing the Proliferation of the Mastery Learning Literature: A Progress Report on the Loyola Clearinghouse on Mastery Learning. Paper presented at the Annual Meeting of the American Educational Research Association, New York, 1982. 23p. Available ERIC. ED 221 194.

The proliferation of the mastery learning literature over the past decade has acutely intensified the need for the formation of a specific Clearinghouse on Mastery Learning (CML). An attempt at establishing such a clearinghouse has been under way for the past year through the Loyola Center for Educational Improvement, based at Loyola University in New Orleans. Of particular importance regarding the nature, current status, and projected activities of the CML is the provision of (1) an organizational basis for establishing a national/international information management system on mastery learning; (2) a central repository for mastery learning documents; (3) an analysis procedure for delineating the past, current, and future nature and direction of mastery learning efforts; (4) a source of information analysis products such as a comprehensive bibliography and highly specific bibliographies on mastery learning; and (5) an informational network system for individuals and professional organizations involved with mastery learning which would coordinate current efforts in the field with past accomplishments and needed future directions. This paper provides a detailed progress report on the CML since its inception.

**439. Jones, Beau Fly. Maximizing Reading Achievement for Low Achieving Students: An Argument for Learning Strategies and Mastery Learning Instruction. Paper presented at the Annual Meeting of the California Reading Association, Anaheim, CA., 1981. Available ERIC. ED 223 990.

Reading improvement programs that have focused on additional staff for teaching, tutoring, and counseling; prescriptive, self-paced learning methods; unstructured open-education strategies; and intensive reading have often been successful in small towns and middle sized cities, but none has made a major impact on the reading achievement of adolescents in large city schools. Studies have indicated that while these students do not develop effective reading and learning strategies without explicit training, existing reading instructional methods in the content areas do not provide this type of training. After repeated failures, low achieving students and their teachers develop low expectations that further inhibit learning and achievement. These students need effective comprehension instruction and appropriate learning conditions in order to achieve. There is increasing evidence that mastery learning instructional and testing procedures facilitate reading achievement on both criterion-referenced and norm-referenced tests. There is reason to believe, also, that mastery learning techniques can substantially alter the expectations of students and teachers. A number of mastery learning and learning strategy programs are now in use in large city schools throughout the United States, and other schools are beginning to develop similar materials.

**440. Lee, Yung Dug. KEDI Instructional Strategies. Paris: UNESCO, International Institute for Educational Planning, 1977. 28p. Available ERIC. ED 180 061. Microfiche only.

This paper outlines the instructional systems model developed by the Korean Educational Development Institute (KEDI). Before discussing the system itself, the speaker outlines the Korean mastery learning strategy on which it is based. The mastery learning approach has nine phases: diagnosis of learning deficiency, compensatory programs, presentation of instructional objectives, teacher instruction, formative tests, remedial programs, enrichment programs, cooperative learning activities, and summative tests. While the mastery learning strategies address only the teaching/learning aspect of education, the KEDI instructional program model was developed as a subsystem of the total educational system. The KEDI model addresses itself to the five steps involved in instruction for a learning task: planning, diagnosis, teaching/learning, extended learning, and evaluation. The speaker discusses outcomes of the program's four tryouts and the cost implications of the program.

**441. Levine, Daniel U., and Joyce Stark. Instructional and Organizational Arrangements and Processes for Improving Academic Achievement at Inner City Elementary Schools. A Study of the Chicago Mastery Learning Reading Program and Other School-Wide Approaches for Improving Reading at Selected Schools in Chicago, Los Angeles, and New York. Extended Summary and Conclusions. Paper presented at the annual meeting of the American Educational

Research Association, New York, 1982. 71p. Available ERIC. ED 213 814.

This report examines the Chicago Mastery Learning Reading Program (CMLRP) and other schoolwide approaches at selected schools in Los Angeles (California), New York City, and Chicago (Illinois) to identify factors in augmented achievement gains. This extended summary and conclusion seeks to provide information which can improve the general effectiveness of inner-city elementary and intermediate schools. Chapter one presents CMLRP components and potential advantages for big city students. Chapter two discusses CMLRP implementation in New York Community District 19 by giving the program's history and chronology, district-level instructional and organizational processes, and data on reading achievement. CMLRP implementation at individual schools in New York and Chicago are compared in chapter three. Chapter four describes five schools using schoolwide approaches in Los Angeles and Chicago to improve instruction for students in concentrated poverty neighborhoods. Schoolwide approaches are defined as elimination of Title I pullout arrangements that fragment the education of low achievers. Finally, chapter five summarizes and discusses those school arrangements and processes identified with improved achievement in inner-city elementary schools.

*442. Mathews, Gary S. Mastery Learning: A Vehicle for Reducing Curriculum Variance. Clearing House, v56 n6 p248-49 Feb 1983.

Argues that there is often a variance between the curriculum approved by the school district and that delivered by the classroom teacher. Proposes mastery learning as a means of avoiding this variance.

443. Parkinson, B.L., and others. Mastery Learning in Modern Languages--A Case Study. Programmed Learning and Educational Technology, v20 n1 p43-53 Feb 1983.

Summarizes a study into the feasibility, problems, benefits, and implications of using mastery learning in teaching French to students in Scottish secondary schools. Examples are provided of target objectives, specimen test materials, progress cards, and class activity records, and implications on class organization are discussed.

*444. Ryan, Doris W. The Mastery Learning Strategy for Improving Classroom Teaching. Teacher Education, n16 p14-22 Apr'80.

The author describes the essential characteristics of the mastery learning strategy and its potential for encouraging pupils to learn better and feel better about themselves.

*445. Ryan, Doris W., and Martha Schmidt. Mastery Learning: Theory, Research, and Implementation. Toronto: Ministry of Education, 1979. 169p. Available ERIC. ED 169 683.

Mastery learning is a group-based, teacher-paced instructional strategy. Because it is also committed to criterion-referenced evaluation and to a strong emphasis on feedback and correctives throughout the learning experience, it is often confused with competency-based education, individualized instruction, and related innovations. Mastery learning depends on five basic components: formal specification of cognitive objectives, division of course content and objectives into instructional units, formative/diagnostic evaluation, corrective or remedial instruction, and criterion-referenced summative evaluation. A review of the research reveals that mastery learning significantly improves student acquisition of cognitive skills and reduces the variability in achievement within the group. Increased retention and transfer of learning and student attitudes are also indicated. Teachers and administrators using mastery learning strategies find the planning process demanding and recommend developing the process a unit at a time. This document discusses the theory, techniques, and implementation of mastery learning strategy; reviews the relevant literature; and discusses two programs in which the strategy has proved successful: the Chicago Mastery Learning Reading Program and the Camden, South Carolina, Mastery Learning in Social Studies Project. A substantial reference section and an extensive appendix (including sample units from the Chicago program) conclude the document.

446. Schmidt, George N. Chicago Mastery Reading: A Case Against a Skills-Based Reading Curriculum. Learning, v11 n4 p36-37,39-40 Nov 1982.

A city-wide elementary school reading program that emphasizes mastery learning and continuous progress in Chicago, Continuous Progress--Mastery Learning, is blamed for the declining reading test scores of high school students there. The program's origins and evolution are described along with a new program, Chicago Mastery Learning Reading, which was developed in response to problems cited in the previous program.

*447. Shannon, Patrick. On Mastery Learning: Some Unwarranted Managerial Constraints Placed on Teachers during Their Reading Instruction. Paper presented at the annual meeting of the International Reading Association, Chicago, 1982. 21p. Available ERIC. ED 215 317.

Examining the translation of mastery learning theory into the practice of reading programs, this paper challenges the appropriateness of mastery learning for reading instruction.

Noting that the use of the term "mastery" is arrogant, conservative, and dogmatic, the paper explores the ramifications of translating mastery learning theory into classroom practice. The paper shows that limited time for learning to read, mastery learning's assumption that all students should learn the same content, and the schools' need to regain public confidence have forced reading instruction to become a managerial rather than educational concern, thereby limiting teachers to the role of using prepackaged materials designed outside of their instructional context. This thesis is supported by brief descriptions of two exemplary mastery reading programs--one in Chicago and one that served as a model for Right to Read.

*448. Spady, William G. Outcome-Based Instructional Management: A Sociological Perspective. Australian Journal of Education, v26 n2 p123-143 August 1982.

During the past decade, a series of related instructional concepts and approaches has been refined and implemented which requires major adjustments in traditional patterns of instructional management and delivery. These approaches are known by names such as "mastery learning", "individually programmed instruction", "competency based education", and "learner-responsive instruction", and they often produce impressive improvements in the learning achievement of whole groups of "average" and "poor" students. While understood and implemented in a variety of ways, they share a set of common underlying principles and operational features identified here as "outcome-based". In describing these outcome-based philosophical principles and program characteristics, this paper focuses on changes in the management of time, students, instructional resources, and testing required of both teachers and administrators by such programs. In brief, the paper develops the thesis and framework that outcome-based approaches require an instructional management system that is assessment driven rather than assignment driven. Among other things, assessment driven systems rely on the existence of time-flexible instructional delivery, student grouping, and testing/assessment conditions in order to assure that virtually all students reach publicly acknowledged and operationalized learning goals. This mode of management represents a major departure from the clock, schedule, calendar, and age-grade based assignment structure within which conventional instructional systems operate.

**449. Strasler, Gregg M. Affective Outcomes in a Learning for Mastery Setting. Paper presented at the Annual Meeting of the American Educational Research Association, New York, 1982. 24p. Available ERIC. ED 220 742.

Few studies of mastery learning deal specifically with retention and transfer of learning or emotional outcomes. To determine whether learning for mastery students were better able than students in nonmastery classes to acquire higher academic self-concept scores, pre- and post-test scores on three affective measures were examined for 93 seventh grade students. In the experimental study of 23 class days, the means of the learning for mastery students either increased slightly or remained constant. In contrast, the means of all three affective measures decreased slightly for the nonmastery learning students. Although results revealed no significant differences between the groups, the findings seem to favor the learning for mastery approach.

*450. Sultemeier, Barbara. Mastery Learning -- Take It All...Or Leave It Alone. Clearing House, v53 n9 p421-23 May 1980.

Described is the concept of Benjamin Bloom's Mastery Learning as a teaching method. The author concludes that, by its very definition, Mastery Learning cannot be superimposed on traditional education.

7. NONVERBAL BEHAVIOUR

451. Beatty, Michael J., and Ralph R. Behnke. Teacher Credibility as a Function of Verbal Content and Paralinguistic Cues. Communication Quarterly, v28 n1 p55-59 Win 1980.

Points out that teachers frequently emit nonverbal messages that contradict their verbal messages. Isolates vocal cues (special characteristics of the communicator's voice) as the nonverbal behavior for study. Examines the interaction of vocal cues and verbal messages with respect to impact on teacher credibility.

**452. Bradley, Banks, and others. Focused Observation and Feedback of Nonverbal Behavior: A Report of the Development of an Instrument Designed for Analysis of Teacher Behavior. East Lansing: Michigan State Univ. College of Education, 1978. 56p. Available ERIC. ED 163 001.

A systematic procedure for obtaining objective data of nonverbal teaching behaviors focusing on specific behaviors is presented. Teacher behaviors, recorded on video-tape, are studied and evaluated for the following nonverbal behaviors: (1) use of proximity control in maintaining discipline; (2) emphasis on the need for eye contact as a speaker; (3) close proximity with children; (4) impact and effect of direct physical contact; (5) varying the stimuli within the classroom; and (6) impact and effect of teacher nonverbal behavior on the social, emotional, and psychological climate in the classroom. A code sheet of symbols for the use of the observer in checking facial expressions, eye movements, head movements indicating approval or disapproval, avoidance behavior, mannerisms, gestures, and nonverbal control movements is included in this document with instructions on its use. The instrument is designed primarily for the use of the teacher in evaluating his or her behavior patterns.

**453. Clark, Bettye Mathis, and John L. Creswell. Participants' Versus Nonparticipants' Perception of Teacher Nonverbal Behavior. 1978. 39p. Available ERIC. ED 173 263. Microfiche only.

It was hypothesized that the perception of the nonverbal behavior of the teacher held by the student may differ from the perception held by an outside observer. This study was designed to compare participant and nonparticipant observers' perception of teacher nonverbal behavior as having encouraging or discouraging affect qualities during a teacher-learning process. Five ninth-grade teachers volunteered to participate in the study. Seven students were randomly selected from the stimulus teacher's class, and seven former teachers were chosen as the nonparticipant observers. Video tapes of regular classroom behaviors of teachers and their interaction were made. After editing, the tapes were viewed by the students of the class (participants) and the nonparticipating observers. Questionnaires designed to reveal how the nonverbal behaviors of the teacher were interpreted by the students and observers were filled out following the viewing. The findings suggest that participants and nonparticipants do not perceive the nonverbal behavior of the teacher similarly. The findings of the study also show that it is possible to define and demonstrate the relevance of a number of nonverbal cues that each group of raters used as predictors or reasons for their assessment of the teachers' behavior. Appendix A presents the table used for rating teacher behavior and the cues responsible for ratings. Appendix B contains a presentation of the responses of the students to the questionnaire.

454. Hughes, James R. How Do You Behave? Your Nonverbal Actions Are Critical to Student Motivation. Music Educators Journal, v67 n5 p52-53 Jan 1981.

Explains types of nonverbal cues which teachers can use to express high expectations to their students. Briefly considers the ethics of the intentional use of nonverbal motivation.

*455. Miller, Patrick W. Nonverbal Communication. What Research Says to the Teacher. Washington, D.C.: National Education Association, 1981. 33p. Available ERIC ED 217 501. Microfiche only.

Noting that educators are surrounded by a vast array of communication processes that involve many avenues of expression, this booklet argues that nonverbal communication is an often ignored, but powerful, aid that can be used to enhance the learning environment. Following an introduction to the subject of nonverbal communication, the booklet examines the research concerning the topic and provides suggestions for teaching techniques based on the research. Specific areas of nonverbal communication discussed in the booklet include facial expressions, eyes, vocal intonation, touching, body postures and movements, dress, and use of space.

456. Miller, Patrick W. Silent Messages. Childhood Education, v58 n1 p20-24 Sep-Oct 1981.

Discusses several aspects of nonverbal communication whereby teachers convey messages about their feelings, needs, and preferences. Types of nonverbal communication include vocal intonation, facial expressions, eye contact, touch, spatial distance, and dress. Implications for classroom outcomes of a teacher's nonverbal communication are presented.

457. Reid, David J. Spatial Involvement and Teacher-Pupil Interaction Patterns in School Biology Laboratories. Educational Studies, v6 n1 p31-41 Mar 1980.

Results of a study of 21 biology teachers in England indicate that classroom behaviors result from a complex interplay of both verbal and nonverbal elements of communication. By manipulating certain nonverbal behaviors, it might be possible to control verbal and social interactions.

458. Smith, Howard A. Nonverbal Communication in Teaching. Queen's University, 1978. 116p.

The important role played by nonverbal communication in the teaching process is emphasized. Following a discussion of semantic issues and general nonverbal research, school-related research is reviewed under seven categories of nonverbal communication. Characteristics of general educational theory and process-product paradigm are outlined and the relationship of nonverbal research to these areas is discussed.

8. QUESTIONS, TURN ALLOCATION AND WAIT TIME

*459. Andre, Thomas. Does Answering Higher Level Questions While Reading Facilitate Productive Learning? Review of Educational Research, v49 n2 p280-318 Spr 1979.

Research on levels of questioning and their effects on learning is reviewed. It is shown that higher level questions facilitate reproductive and productive knowledge, but the reasons why are not clearly understood. An information processing model which accounts for question level effects is discussed.

**460. Andre, Thomas. On Productive Knowledge and Levels of Questions. 1977. 77p. Available ERIC. ED 159 211.

A model is proposed for memory that stresses a distinction between episodic memory for encoded personal experience and semantic memory for abstractors and generalizations. Basically, the model holds that questions influence the nature of memory representations formed during instruction, and that memory representation controls the way in which stored knowledge can be used. The paper is divided into three major sections. In the first section various proposed typologies of questions are described, to identify the dimensions along which questions may vary and to describe both the utility and inadequacies of current typologies. It is argued that an instructionally useful taxonomy must be based upon consideration of the empirical effects of questions, and that development of such a taxonomy is a fundamental goal of research on levels of questions. In the second section the limited research on levels of questions is reviewed, to integrate what is known and not known about the effects of asking different types of questions during instruction. Both deficiencies in the existing studies and promising directions for future research are indicated. The third section briefly presents the information-processing model of knowledge acquisition and attempts to relate question-level effects to the model.

**461. Bachor, Dan G. Responding to Questions to Continue Classroom Participation. Paper presented at the annual International Convention of the Council for Exceptional Children, New York, 1981. 17p. Available ERIC. ED 209 822.

The author discusses the importance of questioning techniques in the instruction of learning disabled students. Factors affecting students' responses to questions are the strengths and weaknesses of the learner and the type and difficulty of the question asked. A systematic method of providing or following up on students answers, termed

Interpretation of Pupil Answers (IPA), is explained. Definitions and examples of five types of interpretation related to IPA are given: (1) a positive evaluation in which the student is provided with information about his/her work that is favorable; (2) a negative evaluation in which the judgment of the student's work is unfavorable; (3) a prompt in which the teacher provides a hint or clue so that the student can arrive at the desired answer; (4) an expand in which the student is asked to give a justification, an explanation, or an example; and (5) a refocus in which the student is reminded that he/she has only answered part of the question or has overlooked some component of the instructions. It is suggested that it may be necessary to interpret correct as well as incorrect answers and silence, that more than one interpretation-questioning exchange may be necessary, and that teacher silence may be the best policy on occasion.

**462. Batson, Amanda Davis. Questioning: A Reading/Thinking Foundation for the Gifted. Paper presented at the annual meeting of the Southwest Regional Conference of the International Reading Association, San Antonio, 1981. 19p. Available ERIC. ED 201 999.

A study to determine the effects of higher level interactive questioning procedures on the cognitive abilities of gifted students was conducted with 14 gifted sixth grade students. The students were selected from a public school enrichment program and randomly assigned to one of two groups that met for five weekly sessions. The control group was given traditional tasks (observe a picture, hear a passage read, or read a passage, then answer primarily recall-type questions), with the additional task of recording their number of correct answers. The experimental group experienced a combination teaching strategy that included: (1) a personal graph on which students recorded the types of questions they asked or answered; (2) explanations of four question categories--recall, think critically, think creatively, and evaluate; (3) focused teacher preparation of questions; (4) student initiated questions; (5) plateaus strategy (based on R. T. Hyman's strategic questioning concept); and (6) emphasis on process rather than on number of correct answers. Pretest and posttest scores on the Ross Test of Higher Cognitive Processes demonstrated that the higher cognitive processes used by the experimental students improved in the areas of sequencing and questioning strategies.

463. Belch, Peter J. Improving the Reading Comprehensions Scores of Secondary Level Educable Mentally Handicapped Students through Selective Teacher Questioning. Education and Training of the Mentally Retarded, v13 n4 p385-89 Dec 1978.

The effects of differential teacher questioning strategies on reading comprehension were studied in 75 secondary-level educable mentally handicapped students.

**464. Boomer, Garth. Oracy in Australian Schools (Or Doing What Comes Naturally). Paper presented at the Conference on Developing Oral Communication Competence in Children, Armidale, Australia, 1979. 12p. Available ERIC. ED 180 033.

Based on the assumption that the same conditions that promote talk in the preschool years might continue to promote oracy if they could be replicated in schools, this paper investigates conditions most likely to promote growth in oral communication, summarizes the findings of two relevant Australian research studies, and draws implications for teaching oracy in schools. It first discusses eight factors likely to promote oracy: the tracking by adults of children's language development, empathy and respect for the child's meaning, the use of speech to achieve specific purposes, interactions with adult speakers, word play, situations that provide challenge and involvement, contexts that promote conceptual growth, and exploratory talk. The paper then summarizes findings of a study that revealed the constricting nature of much teacher questioning at the lower primary level and of a study of the talk environment at the secondary level, which suggested that teachers monopolize the talk space and discourage open communication. The paper concludes by pointing out the need for educators to develop situations that make language demands related to those of the real world, to arrange these situations in a developmental sequence, and to translate the known principles of language growth into a workshop-type approach that provides amply for trial, error, and feedback and that ensures that learners see purpose in the endeavor.

**465. Bozsik, Beverly E. A Study of Teacher Questioning and Student Response Interaction during Pre Story and Post Story Portions of Reading Comprehension Lessons. Paper presented at the annual meeting of the American Educational Research Association, New York, 1982. 34p. Available ERIC. ED 215 294. Microfiche only.

A study was conducted to determine the patterns of questioning behaviors exhibited by four preservice and four inservice teachers in an inner-city elementary school. Specifically, the study examined the types of questions teachers asked, the types of responses given by students, the wait-time between questions that teachers provided for high- and low-ability reading groups, and the discussion time teachers provided high- and low-ability reading groups during pre- and post-story portions of reading comprehension lessons. The teachers were observed for six weeks, using the Question-Response-Interaction (QRI) instrument. Audiotapes of the pre- and post-story portions of the lessons also were collected for analyses. The results showed that both types of teachers tended to pose more textually explicit questions to the low-ability group, regardless of the story portion. The high-ability groups had more discussion time, received more textually implicit and raising type questions, and provided more supported responses. More wait-time between questions was accorded the high-ability group than the low-ability group, and more wait-time was given to pre-story portions than post-story portions of the reading lessons. There were minimal differences between preservice and inservice teachers regarding wait-time.

**466. Chastko, Audrey Marie. Analysis of Student Focussing Behaviour Using Postquestions and Chemistry Learning Materials. Master's thesis, University of Calgary, 1981. 123p. Available ERIC. ED 216 881.

This study investigated the extent of forward shaping due to post-questions on (1) focussing Canadian chemistry students' (N=109) attention on different and similar categories of information (for example, kinds of chemical reactions) described in a science text and (2) requiring students to process science information at high/low knowledge and high/low comprehension levels. Students were randomly assigned to one of six groups: control, reading-only, and one of four post-questions groups. Students in the latter groups read a chemistry text interspersed with post-questions measuring knowledge or comprehension. A posttest was administered consisting of all four types of post-questions used during instruction. Results indicated that students' scores on the post-test were higher on post-test items from a different category than the inserted questions, suggesting that post-questions inserted in a chemistry test can induce a learning set influencing students' attentional processing.

467. Chewprecha, Thongchai, and others. Comparison of Training Methods in Modifying Questioning and Wait Time Behaviors of Thai High School Chemistry Teachers. Journal of Research in Science Teaching, v17 n3 p191-200 May 1980.

Tests the effectiveness of three training methods as self-training materials in modifying questioning behavior including wait time of Thai high school chemistry teachers. Concludes that studying pamphlets and qualitative listening to audiotapes improves questioning; pamphlets study also improves wait time.

*468. Crowell, Doris C., and Kathryn Hu-pei Au. A Scale of Questions to Guide Comprehension Instruction. Reading Teacher, v34 n4 p389-93 Jan 1981.

Presents evidence for the validity of a scale of questions that reflects levels of difficulty in reading comprehension.

**469. Daines, Delva. Teachers' Oral Questions and Subsequent Verbal Behaviors of Teachers and Students. 1982. 32p. Available ERIC. ED 225 979.

A portable minicomputer collected data about elementary and secondary social studies teachers' oral questions and the subsequent verbal behaviors of the teachers and the students. Data indicated that literal types of questions were posed most often by teachers at the rate of 1.5 per minute, and the duration of the students' answers was associated with the cognitive levels of the questions asked by the teachers. After students answered the questions, teachers repeated students' answers and asked for additional responses. Teachers spent an average of 40 percent of the lesson time giving direct instruction to students and 20 percent on noninstructional activities. The teaching style used by teachers influenced the amount of time they spent on instruction and noninstructional activities. Teachers asked low level questions, despite the fact that this practice influenced the verbal behaviors of both teachers and students. The skills of asking higher thinking questions should be practiced by student teachers, or teachers in a classroom setting, and feedback and coaching by other teachers and associates should be made available to them to help increase these skills.

*470. Dillon, J.T. Cognitive Correspondence Between Question/Statement and Response. American Educational Research Journal, v19 n4 p540-51 Win 1982.

Analysis of teacher-student exchanges in high school discussion classes revealed that only half of all students' responses exhibited the same cognitive level as the teacher's intervention. The findings are compared to previous studies which together offer little support for the notion of cognitive correspondence between question and answer.

*471. Dillon, J.T. Curiosity as Non Sequitur of Socratic Questioning. Journal of Educational Thought, v14 n1 p17-22 Apr 1980.

Although Socratic questioning is sometimes said to stimulate curiosity, analysis of selected dialogues from the "Meno" reveals that curiosity cannot be seen to follow from the questioning methods. Other factors, including the felt need to know, may account for curiosity but constitute preconditions rather than results of questioning.

472. Dillon, J.T. The Effect of Questions in Education and Other Enterprises. Journal of Curriculum Studies, v14 n2 p127-52 Apr-Jun 1982.

Reviews the literature on the role of questions in education, in philosophical analysis, and in practical and therapeutic settings. The discussion deals with the effects of questions on respondents, questioning strategies, and the impact of questions on the respondents' cognitive and expressive processes.

*473. Dillon, J.T. To Question and Not To Question during Discussions: 1. Questioning and Discussion. Journal of Teacher Education, v32 n5 p51-55 Sep-Oct 1981.

Questioning techniques are used in the classroom to initiate discussion and to exert teacher control over the class. However, question-answer relationships appear to foster respondent dependency and passivity. It is recommended that the teacher question only when he or she is perplexed and in need of information.

*474. Dillon, J.T. To Question and Not To Question During Discussion. II. Non-Questioning Techniques. Journal of Teacher Education, v32 n6 p15-20 Nov-Dec 1981.

The second in a series of articles concerning the pros and cons of whether it is better to use questioning as part of the teaching device or not to question during discussion focuses on the most effective nonquestioning techniques. Alternatives to questioning are given.

*475. Dillon, J.T. Using Questions to Depress Student Thought. School Review, v87 n1 p50-63 Nov 1978.

Examines the traditional and prevailing view that teacher questions are effective stimulants to student thought. Through an examination of research, practice, and theory related to question use, the author develops a counterargument that questions inhibit thought and discussion, or at least do not stimulate student participation.

476. Dilworth, Collett B., Jr. Asking Questions about Literature: A Review of Strategies. Journal of Aesthetic Education, v14 n2 p43-54 Apr 1980.

Presented is an overview of two types of inquiry which may be used in literature study: inquiry concerning the formal, rhetorical, and semantic features of the text and inquiry generated by the individual's response to the work. The effects of these strategies on students' higher-order cognition are considered.

**477. Donlan, Dan, and Harry Singer. Active Comprehension of Short Stories. Paper presented at the annual meeting of the Claremont Reading Conference. Claremont, Ca.: 1979. 10p. Available ERIC. ED 170 705.

Three methods of preposed questioning aimed at improving student comprehension of short stories were tested with a group of high school students. The methods were as follows: teacher-prepared, preposed questions, self-preposed questions (student-prepared), and schema self-preposed questions (embodying teacher-specified limitations within which students prepared questions). It was found that when teachers preposed questions (a popular technique), comprehension tended to be narrowed because students focused on passages related to the preposed questions; also, students attempted to satisfy the teacher's purpose in reading rather than their own. The student prepared self-preposed method tended to develop digressive, irrelevant questions, and encouraged attention only to question-related passages; this also limited comprehension. Best results were found with the schema self-preposed techniques in which students generated preposed, story-specific questions based on a schema of content-general questions. Questions were not only self-posed but were also likely to focus the reader's attention on passages answering questions that were pertinent and relevant to those asked on a content-valid comprehension test.

**478. Duffy, Gerald G. From Turn-Taking to Sense-Making: Classroom Factors and Improved Reading Achievement. East Lansing: Michigan State University, Institute for Research on Teaching, 1982. 27p. Available ERIC. ED 217 378.

Classroom studies indicate that turn-taking -- when a teacher asks a question or assigns a reading turn, the child responds, and the teacher reinforces or corrects -- is the format of most school lessons. The problem with this format is that it emphasizes pupil response without providing for teacher explanation and the other forms of substantive verbal assistance. This absence of teacher explanation leads to instructional inequity, focuses on answers rather than on process, and masks the teacher's explanatory role in instruction. The turn-taking model can be modified so that teachers provide deductive or inductive explanations at the outset of the lesson and then conduct turn-taking. Including such explanations provides students with specific assistance regarding problem solving strategies. Qualitative studies reveal that effective teacher explanation includes explicit information on what is being taught and why it is important, and clearly tells students how to do the task. In addition, effective explanation requires that teachers talk more and monitor student cognitive processing as they restructure their explanations, providing appropriate elaboration as needed. Finally, good explanation provides cohesion across lessons. Turn-taking is difficult to modify because it is a tradition in American schools, one that appears to work and to ease the problems of classroom management. However, providing explanations is a crucial part of the teacher's instructional effort, and is essential if all pupils are to view reading as a sense-making rather than a mechanical process.

479. Fagan, Edward R., and others. Evaluation of Questioning Strategies in Language Arts Instruction. Research in the Teaching of English, v15 n3 p267-73 Oct 1981.

Investigates the effects of M. B. Rowe's science teaching and questioning techniques in elementary school language arts classrooms. Reviews definitions and applications of wait-time and assesses the effectiveness of wait-time techniques in the improvement of teachers' and students' oral discourse.

**480. Finkelstein, Judith M., and Virginia F. Ritter. Does Anyone Have Any Questions? 1980. 18p. Available ERIC. ED 188 768.

The purpose of this study was to determine if answering a child's question with a question produces further analytical questioning by the child. A sample of 80 children in nursery-kindergarten, first, second and third grades (ages ranging from 4-9 years) were divided into two groups. An abstract painting by Kandinsky was shown individually to each child. Children were told, "Look at this picture and tell me what you wonder about it." Group A children's responses were followed by questions from the interviewer. Children in Group B were not given questioning replies, but were responded to with positive statements. All subjects were the interviewer's past or present students. Findings indicate that, in comparison to positive replies, a teacher's questioning reply to a child's question does not produce increases in children's questioning behavior. Apparently, age is a factor, not only in children's ability to ask questions, but also in their ability to understand what a question is. A relationship between the responses of the interviewer and the level of the child's questions was found. When the interviewer replied to the child's question with a question, the child responded with a higher level question. Subjects who had younger siblings and whose mothers had been home during the subjects' first two years asked more questions than did other children. Black children tended to make more responses than did others.

*481. Gall, Meredith D., and others. Effects of Questioning Techniques and Recitation on Student Learning. American Educational Research Journal, v15 n2 p175-99 Spr 1978.

Two experiments investigated the effects of four teaching treatments on sixth graders' learning of an ecology curriculum. Recitation was more significant in improving learning than the other treatments -- probing or followup questioning; redirection of a question to another student; and higher cognitive questioning.

*482. Gambrell, Linda B. Think-Time: Implications for Reading Instruction. Reading Teacher, v34 n2 p143-46 Nov 1980.

Argues that allowing students five seconds to think about a question both before and after they answer it improves the quality of the answers they give.

**483. Gooding, C. Thomas, and J. Nathan Swift. Modifying Teacher Questioning Behavior in Classroom Interaction. Paper presented at the annual meeting of the Eastern Educational Research Association, West Palm Beach, 1982. 21p. Available ERIC. ED 214 769.

This project investigated the effects of increasing teachers' wait times on general questioning skills in science teaching. Variables were separated through the use of four treatment groups, each containing ten science teachers. Schools were randomly assigned to four treatment conditions from a subsampling of middle schools in a central New York state county. One group received instruction in wait time using a newly developed electronic feedback device that monitors the duration of teacher and student pauses; a second received general questioning skills instruction; a third received both types of instruction; and a comparison group received no instruction of either type. Use of written materials on questioning produced only a slight increase in teacher wait times, but feedback devices caused significant increases. Interaction effects were found significant favoring those who had access to the devices without the additional complication of reading the written materials. Treatment effects were maximized at the project's fifth week, and diminished as the school year's end approached. The greatest behavior change noted in analysis was the increase in the amount of total classroom discussion time with active student participation.

**484. Gooding, C. Thomas, and others. Improving and Encouraging Discussions in the Classroom. Paper presented at the Convention of the Eastern Educational Research Association, Baltimore, 1983. 11p. Available ERIC. ED 229 338.

A follow-up study was conducted, using a sample of 10 teachers from two of five school districts that participated in an original project on wait time and classroom interaction. A workshop was conducted focusing on the elements of classroom discussions. In this workshop, transcripts containing short wait times were contrasted with ones with longer wait times. After attending the workshop, teachers were provided with an electronic device which indicated successful pausing (according to a 3 second criterion) following questions and answers. Each participant made a recording of one class discussion every week for 4 weeks. Recordings were analyzed by researchers for wait times and levels of questioning, and suggestions were offered to the teachers. Results showed a strong correspondence between increases in wait times and percentage of student talk, between wait times and higher cognitive level questions, and between length of wait time and length of relevant student discussion contributions.

485. Graves, Donald H., and Mary Ellen Giacobbe. Research Update: Questions for Teachers Who Wonder If Their Writers Change. Language Arts, v49 n5 p495-503 May 1982.

Reports on two case studies of writing development in the primary grades. Notes the impact of teacher's questioning techniques, both on student development as writers and on teacher ability to evaluate student progress.

**486. Hassler, Donni M. A Successful Transplant of Wait-Time and Questioning Strategies to Children's Oral Language Behaviors. 1979. 30p. Available ERIC. ED 205 951.

Initially, many children use language with enthusiasm and apparent ease, but this lively use of language is sharply curtailed shortly after they begin school. This can be attributed to teachers' monopolizing continued discourse. A study explored the idea that increased student oral participation by more students at a higher level of thinking would result during problem solving discussions of children's literature if language arts teachers were trained in wait-time theory (analysis of pauses occurring between teacher and student interaction), in higher level questioning strategies, or both. Data were gathered from third, fourth, and fifth grade students and teachers in 20 elementary classrooms. Results showed those teachers trained in wait-time techniques had longer student responses, asked more higher level questions, but asked fewer total questions. A somewhat complementary pattern was observed for higher level questioning training. Those who were trained experienced greater numbers of alternative student explanations and more higher level student responses. Neither, however, increased the total number of teacher questions. Results support the contention that questioning research needs to address itself to both the effects of a variety of questions and the other variables that comprise the learning situation.

487. Henderickson, Jo M., and Carole E. Stowitschek. Teacher Use of Diagnostic Questioning and Modeling in Language Development. Journal of Special Education Technology, v3 n4 p17-27 Fall 1980.

Results indicated that the diagnostic questioning strategy using Full Model to Open Questioning was more efficacious for modifying the structure and content of young learners' expressive language repertoires than the reverse, which begins with an open ended question, "tell me about this," and proceeds through more restricted alternatives.

**488. Hendrickson, Jo M., and Carole E. Stowitschek. Teacher Use of Diagnostic Questioning and Modeling in Language Development. Paper presented at the Tennessee Behavior Therapy Association (1980) and Midwestern Association of Applied Behavioral Analysis (1980). 24p. Available ERIC. ED 204 916.

The study compared the effectiveness of two commonly used questioning sequences with four preschool developmentally delayed male children, aged 3 to 5 years, and their four adult trainers. The Full Model to Open Question sequence began with presenting the child with a model of the correct answer and then proceeded to increasingly less restricted choices until the open ended request ("Tell me about this"). The Open Question to Full Model sequence begins with the open question and proceeds through the sequence in reverse order until the child responds correctly. Each student received each training sequence for two sets of responses. Results indicated that the Full Model to Open Question strategy required fewer training sessions than the Open Question to Full Model strategy with all four Ss and trainers. Although both strategies were successful in teaching the target responses, under the Full Model to Open Question condition, each S appeared to evidence a "learning to learn" phenomenon with fewer sessions necessary for the second set of responses taught.

**489. Hillman, Stephen B. Information Processing as a Function of Question Type and Position. Paper presented at the annual meeting of the American Educational Research Association. San Francisco, Ca.: 1979. 24p. Available ERIC. ED 175 171.

The study examined the effects of questions on learning among 90 intermediate level educable mentally retarded children. Four types of learning were identified as relevant remembering, incidental remembering, relevant inferring, and incidental inferring. Results indicated that question position was an important variable in influencing the learning of EMR children, with Students who received post-questions performing consistently better than those who received pre-questions. A significant interaction between question type and relevant criterion type was also found; children who received "remembering" training questions scored higher on the remembering relevant criterion test than children who had received "inferring" training questions, and children who received "inferring" training questions performed better on the inferring relevant criterion test than children who had received "remembering" training questions.

490. Holliday, William G. Overprompting Science Students Using Adjunct Study Questions. Journal of Research in Science Teaching, v20 n3 p195-201 Mar 1983.

The selective attention model *was used to explain* effects of overprompting students (N=170) provided with study questions adjunct to a complex flow diagram describing scientific cyclical schema. Strongly prompting students to answers of questions was less effective than an unprompted question treatment, suggesting that prompting techniques be used with extreme caution.

*491. Hollingsworth, Paul M. Questioning: The Heart of Teaching. Clearing House, v55 n8 p350-52 Apr 1982.

Notes briefly the major obstacles to effective questioning (repeating questions, answering one's own questions, repeating student responses). Describes effective questioning techniques, including the use of probing questions that build toward clarification and correct response to the original question.

*492. Honea, J. Mark, Jr. Wait-Time as an Instructional Variable: An Influence on Teacher and Student. Clearing House, v56 n4 p167-70 Dec 1982.

Results of a study show that increasing the amount of time teachers allow for students to answer questions produces a number of positive results, including (1) increases in the length of student response, (2) increases in the number of unsolicited responses, and (3) improvement in student-to-student interaction.

**493. Honig, Alice Sterling, and Donna Sasse Wittmer. Teacher Questions to Male and Female Toddlers. Paper presented at the Symposium of the International Society for the Study of Behavioral Development, Toronto, 1981. 16p. Available ERIC. ED 208 968.

This study was designed to investigate three main topics: the frequency of different kinds of questions which day care teachers asked of low-income 2-year-olds, the toddlers' rate of response to questions, and differences in questions asked of boys and girls. It was hypothesized that caregivers would ask girls more personal-social questions and boys more referential-objective questions. This hypothesis was based on the notion that girls are socialized to be nurturing and expressive, whereas boys are socialized to be instrumental. Subjects in this study were 24 male and female toddlers whose day care fees were paid by Title XX funds. Observation of adult-child interaction employed A Procedure for Patterning the Responses of Adults and Children (APPROACH) for recording behaviors. The hypothesis was confirmed that girls would be asked significantly more convergent questions related to feelings and personal-social content than were boys. The hypothesis that boys would be asked more questions relating to referential-objective content was not confirmed but tended toward significance. The higher rate of male toddler responses to open-ended questions suggested that girls may be socialized to respond to safe, routine questions rather than to questions requiring cognitive restructuring of the objective world.

*494. Hughes, Carolyn Sue. Staff Development for Building Student Thinking Skills. Educational Leadership, v39 n1 p48-51 Oct 1981.

The Questions to Upgrade and Encourage Student Thinking (QUEST) program is designed to improve student reading comprehension by improving teacher questioning skills.

**495. Kahn, Michael. Classroom Questioning Techniques: The T.V. Taxonomy of Questions. 1981. 10p. Available ERIC. ED 214 143.

The T.V. Taxonomy of Questions was developed for use by teachers who wish to stimulate their students' critical thinking skills, but who find the terminology of existing skill taxonomies both confusing and elusive. This taxonomy consists of six levels of questions. Each level is given the name of a television program reflecting how the student thinks and is accompanied with a list of the subskills or cognitive processes used at that level. The six levels, ranging from low to high levels of cognitive stimulation, are as follows: (1) "My Mother the Car," types of questions that require students to think on a literal level; (2) "The 11:00 News," questions that require students to reorganize known material and put it into their own words; (3) "In Search Of," questions that require students to speculate on possible conclusions based on educated guesses; (4) "Columbo," questions that ask students to weigh information and draw conclusions about its validity; (5) "The French Chef," questions requiring students to apply and transfer information from one situation to another; and (6) "The Super Bowl," questions that require students to be involved in the answers.

*496. Kniep, Willard M., and Gloria Grossman. The Effects of High Level Questions in Competitive and Cooperative Environments on the Achievement of Selected Social Studies Concepts. Journal of Educational Research, v73 n2 p82-85 Nov-Dec 1979.

The use of high-level questions increased the high- and low-level understanding of fifth graders. Competitive environments produced significantly greater high-level understanding than did cooperative environments.

497. Lange, Bob. ERIC/RCS Report: Questioning Techniques. Language Arts, v59 n2 p180-85 Feb 1982.

Reviews materials in the ERIC system dealing with teachers' questioning behaviors.

**498. Mahlios, Marc, and Karen D'Angelo. Teacher Questions: An Experimental Analysis of the Question Effect Hypothesis. Paper presented at the Annual Meeting of the Association of Teacher Educators, Orlando, 1983. 18p. Available ERIC. ED 227 062.

A study examined the effects of three types of teacher questions (literal, interpretive, applied) on: (1) frequency, length, and quality of student response; (2) classroom interaction; (3) student questions; (4) intentional and incidental learning; and (5) student attitudes. Multiple-choice formats were used to assess intentional learning, and incidental learning was assessed by questions based on material used in the lesson. Applied learning was indicated by questions posed by students and by their written answers to an essay question. Classroom interaction and attitudes were assessed with standard research instruments. Findings implied that the kinds of questions teachers ask directly influence the nature of student answers, both in length and in type, and that applied questions lead to greater amounts of feedback during classroom interaction. Some predictability in achievement can be afforded by altering question types, and higher level questions positively influence higher level achievement. Different question types may not differentially affect student attitudes toward the teacher or lesson.

*499. Martin, Jack. Effects of Teacher Higher-Order Questions on Student Process and Product Variables in a Single-Classroom Study. Journal of Educational Research, v72 n4 p183-87 Mar-Apr 1979.

This experiment examines the impact of a higher-order question teaching strategy on student process (classroom behaviors) and product (achievement and attitude) variables. Results generally show some impact on student process variables but little positive impact on student product variables.

**500. Mayes, Bea. What Do Reading Teachers Teach in First Grade Classes?: A Study of Questions Teachers Ask. 1977. 18p. Available ERIC. ED 158 253.

Eighteen first grade reading classes were studied for differences in teacher verbal behavior in various types of reading programs. Nine of the classes were using the Direct Instructional System for Teaching Arithmetic and Reading (DISTAR) and nine of the classes were using the less structured traditional basal approach to teaching reading. The teaching process was analyzed by concentrating on the number of teacher questions and solicitations and their meanings. Results showed that DISTAR teachers made twice as many pedagogical moves as those in the basal reading programs and they asked significantly more translation questions while the basal teachers made more reacting types of pedagogical moves. The differences in number of moves were primarily related to the programmed nature of DISTAR, calling for mostly short choral responses from the pupils and using nonverbal cues to get such responses while basal method teachers verbally requested phrase or longer unit responses. While there are differences between the implementation of the DISTAR program and implementation of the basal reader programs, the differences are probably not as great as critics of the DISTAR system believe.

*501. McKenzie, Gary R., and Mixon Henry. Effects of Testlike Events on On-Task Behavior, Test Anxiety, and Achievement in a Classroom Rule-Learning Task. Journal of Educational Psychology, v71 n3 p370-74 Jun 1979.

The effects of questions on attention and achievement were studied. Children were exposed to the same lesson and questions. Control subjects were called upon randomly, and experimental subjects were asked to indicate responses to every question with a nonverbal gesture. Questions addressed to individuals were less effective than questions used as testlike events.

*502. McNamara, David R. Teaching Skill: The Question of Questioning. Educational Research, v23 n2 p104-09 Feb 1981.

The author examines student teaching methods books in reference to how student teachers develop questioning skills. He suggests that the current methods have remained unchanged for years. He also suggests that this pattern should change and gives reasons for his opinion.

*503. Mehan, Hugh. "What Time Is It, Denise?": Asking Known Information Questions in Classroom Discourse. Theory into Practice, v18 n4 p285-94 Oct 1979.

In a classroom setting, as distinct from other settings, a teacher asks questions in order to evaluate the correctness of the reply, not to seek information.

*504. Mills, Stephen R., and others. The Correspondence between Teacher Questions and Student Answers in Classroom Discourse. Journal of Experimental Education, v48 n3 p194-204 Spr 1980.

The thought processes involved in students' answers to different kinds of teachers' questions were investigated using data obtained from a previous study. It was found that the chances are about even that there will be a correspondence between the cognitive level of the question and of the response.

**505. Mize, John, and George Mason. Evaluating Comprehension Questions: Why Some Questions May Be Questionable. Paper presented at the annual meeting of the College Reading Association, Boston, 1979. 16p. Available ERIC. ED 182 703.

Since questions are used in a wide variety of ways to test comprehension, clarify communication, and determine levels of proficiency, it is important to be aware of the factors that influence how an individual answers a question. The influence on comprehension of vocabulary, syntax, and material organization has been studied and this influence diminishes with the developing maturity of the answerer. The individual's knowledge base is the most important influence on comprehension and the ability to answer questions. A second important influence on how information is learned and how questions are answered is the situational context in which the information was found and the inclusion of some of the original text in the question. The context includes instructions for reading, task structure, perceived authority, and context shifts.

506. Moeser, Shannon Dawn. Effect of Questions on Prose Unitization. Journal of Experimental Psychology: Human Learning and Memory, v4 n4 p290-303 Jul 1978.

In a series of experiments, it was found that asking questions about information in a prose sequence while it is being presented can affect the degree to which that prose material is stored as a unitized whole, and that this in turn will affect how well that prose is remembered.

**507. Morine-Dershimer, Greta, and Fred Fagal. Why Do You Ask? Paper presented at the annual meeting of the American Educational Research Association, Boston, 1980. 43p. Available ERIC. ED 186 434.

A sociolinguistic investigation of pupil interpretations of the functions of questions and responses was applied to 165 pupils in a multiethnic, lower socioeconomic status elementary school. Procedures involved videotaping of language arts lessons and family conversations. Videotapes were played back to pupils, who were then asked to explain "What reasons people had for saying these things." Pupils reported that responses made to questions occurring in family conversation served an informative function, but that the questions asked in a classroom situation served an instructional or routinely interactive function. There were no significant ethnic differences in pupil perceptions of the function of questions; there were, however, significant differences in teachers' use of questions, which appeared to relate to classroom differences in final reading achievement.

**508. National Education Association. Project on Utilization of Inservice Education R & D Outcomes. Effective Questioning: Elementary Level (Minicourse 1). Description of Teacher Inservice Education Materials. 1976. 8p. Available ERIC. ED 167 531.

The inservice self-instructional minicourse described here is intended to give teachers knowledge of and practice on using specific questioning techniques that increase students' participation and learning during class discussion. The classroom techniques include redirection, refocusing, handling incorrect responses, pausing, using higher cognitive questions, asking for clarification, and reducing teacher behavior that interferes with the flow of class discussion. Information is provided in this description on the purposes and content of the course and materials as well as activities and resources.

**509. National Education Association. Project on Utilization of Inservice Education R & D Outcomes. Effective Questioning Techniques (Implementive Module 3). Description of Teacher Inservice Education Materials. 1977. 8p. Available ERIC. ED 166 189.

The inservice learning module described here focuses on testing the teacher's understanding of and skill in using effective questioning techniques in the classroom. Inservice topics addressed include methods of verbal and nonverbal accepting or encouraging; probing techniques; and methods of asking effective questions. This description provides information on the purposes and content of the module as well as activities and resources.

**510. National Education Association, Project on Utilization of Inservice Education R & D Outcomes. Higher Cognitive Questioning (Minicourse 9). Description of Teacher Inservice Education Materials. 1976. 8p. Available ERIC. ED 167 530.

The teacher inservice minicourse described here is designed to increase the teacher's use of higher cognitive questions, which helps develop student ability to think and is primarily concerned with analysis, synthesis, and evaluation questions. Information is provided here on the purposes and content of the course and materials as well as activities and resources.

**511. National Education Association. Project on Utilization of Inservice Education R & D Outcomes. Questioning Skills (Cluster V; 5 Modules--a summary). Description of Teacher Inservice Education Materials. March, 1977. 8p. Available ERIC. ED 169 064.

The described learning module is designed for teachers and educators who wish to improve their techniques of inquiry and questioning. The scope and sequencing of topics in this module are described as well as the activities and resources involved in its use. Ordering information is provided, and a critique of the module is included.

**512. National Education Association. Project on Utilization of Inservice Education R & D Outcomes. Questioning that Turns Students On Rather Than Off. Description of Teacher Inservice Education Materials. February, 1977. 8p. Available ERIC. ED 171 685.

The programed materials for inservice teacher education described in this document are designed to make the teacher think about questioning techniques and learn some of the principles of good questioning procedures. The program is designed as a home study course. This descriptive report provides further information on the purposes and content of the program as well as activities and resources involved. A critique, history of development, and ordering information are also included.

**513. National Education Association. Project on Utilization of Inservice Education R & D Outcomes. The Use of Higher Level Questions (Module 2). Description of Teacher Inservice Education Materials. 1977. 8p. Available ERIC. ED 169 002.

The learning module described is designed for preservice and inservice classroom teachers interested in improving their questioning skills. It may be used by teachers at all grade levels. The scope and content of the module are outlined, and the activities and resources involved in its use are described. A critique of the module and ordering information are also included.

**514. National Education Association, Project on Utilization of Inservice Education R & D Outcomes. The Use of Questioning in Social Studies. Description of Teacher Inservice Education Materials. 1977. 8p. Available ERIC. ED 169 063.

The intent of the teacher education learning module described here is to increase the user's competency in asking questions that will stimulate higher levels of thinking and learning. Seven specific categories of questions are outlined. The focus is on approaches to thorough and thought-provoking questioning, strategies for analyzing the nature of questions, and coordinating a progressive questioning structure. This descriptive report provides further information on the purposes and content of the program as well as activities and resources involved.

**515. Pellegrini, A.D., and Helen Greene. The Use of a Sequenced Questioning Paradigm to Facilitate Associative Fluency in Preschoolers. Paper presented at the annual convention of the American Psychological Association, Montreal, 1980. 26p. Available ERIC. ED 196 535.

The extent to which free play versus sequenced questioning conditions facilitates preschoolers' associative fluency was investigated in this study. Twenty-four children (12 boys and 12 girls, with a mean age of 50.7 months) were randomly assigned to one of three conditions: free play, sequenced questioning, and control. In the sequenced questioning condition, children presented with stimulus objects (an empty wooden spool, a blue pipe cleaner, a wooden clothespin, and wine bottle cork) were asked to describe, classify, and contrast them. Children in the free play conditions were presented simultaneously with two of the objects and were instructed to play with them in any way they liked. While children in the first two conditions were interacting with the objects, the control children engaged in conversation with the experimenter for ten minutes and then were asked, with the rest of the children, for novel uses of one of the objects. In general, children in the sequenced questioning condition generated significantly more novel responses than children in the other two conditions. No significant difference was observed between the play and control conditions. It was suggested that the sequenced questioning technique can be an effective teaching strategy in preschool classrooms for facilitating children's creative and cognitive development.

**516. Raphael, Taffy E., and Clydie A. Wonnacott. The Effect of Metacognitive Awareness Training on Question-Answering Behavior: Implementation in a Fourth Grade Developmental Reading Program. Paper presented at the annual meeting of the National Reading Conference, Dallas, 1981. 30p. Available ERIC. ED 212 999.

A study investigated the effects of a teacher inservice program on teaching fourth grade students the functional relationship between questions and the response information to which they refer. Ten teachers and 180 of their students participated in the study. Three of the teachers participated in a traditional half-day teacher workshop on question-answer relationships, three in a more extensive training program that included specific materials and weekly monitoring with feedback, two in practice-only classrooms, and two in no-treatment classrooms. Pretest and posttest data examined students' performance in identifying and responding to (1) text explicit questions (with response information explicitly stated in the same sentence as the question information), (2) text implicit questions (requiring integration of text information across sentences), and (3) script implicit questions (requiring the readers to rely on their knowledge base, or schemata, for response information). Results of ten weeks of instruction revealed that high ability students outperformed average and low ability students, and that performance on text based questions was higher than performance on script based questions. Students in both training groups were superior to the control group students in the quality of their responses. Students whose teachers had received more extensive and programmatic training were better able to identify the question-answering strategy required by each question, though they did not differ in their internal consistency or response quality.

*517. Redfield, Doris L., and Elaine Waldman Rousseau. A Meta-Analysis of Experimental Research on Teacher Questioning Behavior. Review of Educational Research, v51 n2 p237-45 Sum 1981.

The meta-analytic technique was used to synthesize experimental research findings on the relationship between level of teacher questioning and student achievement. Results show that gains in achievement can be expected when higher cognitive questions assume a predominant role during classroom instruction.

**518. Reed, Rodney L. Questioning and Its Implications for Educational Research. 1977. 19p. Available ERIC. ED 164 374. Microfiche only.

Since the questioning process is critical in stimulating student learning, an urgent need for more extensive, controlled research on this topic exists. Previous studies indicate that a high percentage of questions asked by teachers call only for factual answers and that oral activity in the classroom is largely teacher-dominated. Further, no studies have attempted to ascertain the extent to which teachers transfer and use their own questioning skills in the classroom. Several factors contribute to the discrepancy between what teachers have been taught regarding questioning and what they actually practice in the classroom. These factors are: (1) numerous and inconsistent question classification systems confuse teachers, (2) research methodologies of even the most significant studies are questionable, and (3) the limited perception of the questioning process does not concern itself with student-posed questions. Current research studies examine the effectiveness of teachers trained in questioning techniques as opposed to untrained teachers, the relationship between the cognitive level of a teacher's question and the cognitive level of the student's response, the relationship between high- and low-level questions and different types of stimuli, and the relationship between questioning and problem solving in preschool children. Future research should be oriented toward fitting different types of questions to established strategies, determining the connection between different types of instructional media and levels of questioning, and identifying the effects of different types of questioning strategies in teacher-training situations.

519. Reese, Sandra C., and others. Assessment of Multiple Behavioral Procedures on Academic and Social Classroom Behavior. Psychology in the Schools, v18 n3 p349-55 Jul 1981.

Describes behavioral procedures used with adolescent students which involved manipulating type and delay of reinforcement, teaching desirable behaviors, and training in several skills. Implemented procedures through an independent group-oriented contingency system. These students performed significantly better on grades, school attendance, and length of time absent due to suspension.

*520. Rickards, John P. Adjunct Postquestions in Text: A Critical Review of Methods and Processes. Review of Educational Research, v49 n2 p181-196 Spr'79.

Four overall methods have been developed for assessing prose processes produced by adjunct postquestions and collectively four processes have been found operating in such situations. The four processes are: 1) a specific backward process -- mental review of questioned material; 2) a general backward process -- mental review of information adjacent to and/or topically related to the material questioned; 3) specific forward process -- set to focus on specific kinds of information in text segments following inserted postquestions; and 4) general forward process -- increased attention to text segments following adjunct postquestions. The methods for assessing these processes are reviewed, and suggestions for future research are provided.

521. Riley, Joseph P., II. A Comparison of Three Methods of Improving Preservice Science Teachers' Questioning Knowledge and Attitudes toward Questioning. Journal of Research in Science Teaching, v17 n5 p419-24 Sep 1980.

Evaluated the comparative efficacy of the three most popular classification systems in terms of preservice elementary school teachers' ability to classify questions and their attitudes toward questioning. The classification schemes used were those of Aschner, Bloom, and Sanders. Advantages of the Aschner-based system are discussed.

**522. Rucker, Gary H. The Teacher Questioning Measure. 1980. 8p. Available ERIC. ED 190 525.

The Teacher Questioning Measure (TQM) was developed to give the student teaching supervisor an objective means of evaluating the questions asked by the student teachers. This instrument was designed to measure six areas of cognitive skills: knowledge, comprehension, application, analysis, synthesis, and evaluation. Questions are measured on a scale from low levels of cognition, such as simple recall, through progressive stages to questions requiring high level creative thinking. A description is given of how to use the TQM in observing student teachers and how to analyze results.

*523. Ryan, Frank L. Selected Non-Cognitive Variables and Student Achievement in a High-Level Questioning Environment. Journal of Experimental Education, v47 n1 p46-51 Fall 1978.

Seventy fifth and sixth grade students were randomly assigned to one of two instructional groups. Instruction for both groups was implemented within similar high-level questioning environments. However, in one group the teacher elicited more high-level student responses per question posed than was the case in the second group.

524. Saigh, Philip A. The Validity of the WISC-R Examiner Verbal Praise Procedure as a Concurrent Predictor of the Academic Achievement of Intellectually Superior Students. Journal of Clinical Psychology, v37 n3 p647-49 Jul 1981.

Intellectually superior students were praised verbally after their responses to the WISC-R questions, or were given neutral comments. The verbal praise procedure generally was associated with weaker predictive power. Findings were discussed in light of academic functioning under normal classroom conditions and potential behavior in an optimal testing environment.

**525. Sigel, Irving E., and Ruth Saunders. An Inquiry Into Inquiry: Question-Asking as an Instructional Model. Urbana, Ill.: ERIC Clearinghouse on Early Childhood Education, 1977. 42p. Available ERIC. ED 158 871.

Focusing on the teacher as inquirer, this paper discusses the nature of inquiry, presents its conceptual framework and describes in detail the use of question strategies in the preschool program. The definition of inquiry analyzes structure and function of the question, particularly manifest and latent message levels. Discussion of the conceptual basis examines concepts of distancing (from the immediate behavioral environment), tension and discrepancy, relating resolution of discrepancy to cognitive growth. Types of distancing behaviors are described, with specific examples given of basic questioning strategies for the preschool classroom. Tentative conclusions point to the consistency of the concepts and rules presented with certain current theories of cognitive growth.

*526. Sitko, Merrill C., and Alan G. Slemon. Developing Teachers' Questioning Skills: The Efficacy of Delayed Feedback. Canadian Journal of Education, v7 n3 p109-21 1982.

Investigates whether teachers change their questioning strategies after they learn a system for categorizing questions into objectively defined categories and receive feedback immediately following class about the types of questions asked. Changes in the types of questions and the distribution of questions were noted during four observational periods.

**527. Stahl, Robert J. Improving the Effectiveness of Your Questions: Some A, B, C's of Questioning. Paper presented at the annual meeting of the National Council for Social Studies, New Orleans, 1980. 11p. Available ERIC. ED 198 052.

This paper offers suggestions to help social studies teachers improve the oral and written questions they pose in class and use pre- and post-question behaviors which enhance the chances for appropriate student answers. Seven types of questions are identified as useful questioning strategies in many social studies situations. They are recollection/recall, defining, topical, relational, comparative, preferential, and emotive. Examples and specific uses of each type of question are enumerated. It is suggested that, in addition to posing clear and concise questions appropriate for given situations, teachers can improve questioning situations if they adopt positive pre-questions behaviors. Among these behaviors are planning ahead, mentally rehearsing, making sure that students have all necessary information for answering the question, stating questions clearly and precisely, including cue words to help students focus their thinking, asking one question at a time, asking questions before calling on a student, and avoiding asking a large number of questions which require a simple yes/no response. Positive post-question behaviors are also suggested, including waiting in silence after the initial response to give the student a chance to think over what was said, refraining from continually calling on the same students, and helping students feel comfortable with periods of silent waiting and thinking.

**528. Swift, J. Nathan. Wait Time and Questioning Skills of Middle School Science Teachers. Final Technical Report. New York: New York State Univ. System, 1982. 37p. Available ERIC. ED 220 276.

This investigation focused on teachers' questioning skills and the use of wait time (length of pauses after questions). A sample of 40 experienced middle school science teachers from 5 suburban school districts in 1 central New York State county was divided into 4 treatment groups of 10 teachers each. One group received instruction in wait time using a newly-developed electronic feedback device that monitors the duration of teacher and student pauses. (A green light glows when the criterion of a 3 second pause is met.) A second group received instruction in general questioning skills. A third group received both instruction and the use of the feedback device, while the fourth group served as a comparison and received neither instruction nor the electronic device. Tape recordings of class discussions were coded and analyzed for classroom interaction data. Comparisons were made using discriminant analysis, analyses of variance, and correlational relationships. The two groups using the electronic feedback device increased their wait time (although not to the 3 second criterion), used greater numbers of high level questions, and received more contributions from students as measured by length of answers, frequency of volunteered contributions, numbers of relevant student words, and percentages of student talk.

**529. Teneberg, Morton S., and Greta Morine-Dershimer. Cycling and Recycling Questions: The "When" of Talking in Classrooms. Paper presented at the annual meeting of the American Educational Research Association, Los Angeles, 1981. 30p. Available ERIC. ED 208 354.

Research has established that classroom verbal interaction typically involves turn taking cycles described as "teacher solicits," "pupil responds," and "teacher reacts." A study examined the question/answer cycles occurring within 36 videotaped language arts lessons conducted by six elementary school teachers and made inferences regarding what students must know about repeated cycles of turn-taking during classroom discourse in order to comprehend discussion. The study was confined to three main sequences: (1) the topical or independent relationship, in which two adjacent question cycles are structurally separate, but frequently related by topic; (2) the conjunctive relationship, in which two or more question cycles are tied together because the same question is asked of more than one pupil; and (3) the embedded relationship, in which one question cycle is contained within another because the teacher reaction involves a new solicitation. Graphic displays of the taped lessons suggested that the structural sequencing of question cycles varied a great deal from lesson to lesson, and that much of this variation was derived from the instructional strategy or teaching procedure being used. Comprehension of a conjunctive cycle appeared to depend on a pupil not only realizing that the same question was being asked more than once, but also understanding why the question was being repeated. Comprehension in an embedded cycle appeared to depend on the pupil recognizing that the teacher's reaction did not close out the matter at hand, but that the topic was being pursued further.

**530. Threadgill, Judith. The Interaction of Learner Aptitude with Types of Questions Accompanying a Written Lesson on Logical Implications. Paper presented at the annual meeting of the American Educational Research Association. San Francisco, Ca.: 1979. 24p. Available ERIC. ED 175 905. Microfiche only.

Since research on the effect of questions adjunct to written materials has usually ignored learner aptitudes, this study was designed to explore the interaction of a verbal aptitude measure (vocabulary ability) with two types of questions following a prose selection on logical implications. Two hundred fifty-two tenth-grade students were randomly assigned to one of four treatments: text with applied questions, text with verbatim questions, text with no questions, and control text. Regression analysis yielded an ordinal interaction, suggesting that applied questions were more effective than no questions for students with low aptitude scores, while not differentially affecting students with high aptitude scores. In addition, a disordinal interaction was identified which suggested that students with low aptitude scores learned more from verbatim questions, while students with high aptitude scores learned more with no questions.

531. Tobin, Kenneth G. The Effect of an Extended Teacher Wait-Time on Science Achievement. Journal of Research in Science Teaching, v17 n5 p469-75 Sep 1980.

Investigated the effects of variation in teacher wait-time on science achievement for students (N=733) in 11 Australian middle schools. Conclusions provide evidence that the extension of teacher wait-time produces desirable changes in achievement.

**532. Tobin, Kenneth G. The Effect of an Extended Teacher Wait-Time on Science Achievement. Paper presented at the annual meeting of the National Association for Research in Science Teaching, Atlanta, 1979. 20p. Available ERIC. ED 171 577.

Reported is an investigation of: (1) the effect of teacher wait-time on science achievement; and (2) the difference in the achievement of children at the formal stage and those at the concrete stage of cognitive development. Teacher wait-time was defined as the length of the pause preceding any teacher utterance. The sample consisted of 23 intact classes of children from grades 5, 6 and 7 in Australian schools. Three treatment groups were used: (1) wait-time greater than 2-7 seconds; (2) wait-time greater than one second but less than 2-7 seconds; and (3) wait-time less than or equal to one second. Science achievement was measured with paper and pencil tests based on physical science concepts taught in the study. Results showed that the extension of teacher wait-time produced desirable changes in science achievement for fifth, sixth, and seventh graders.

**533. Tobin, Kenneth G., and William Capie. The Effects of Teacher Wait-Time and Questioning Quality on Middle School Science Achievement. Paper presented at the annual meeting of the American Psychological Association, Montreal, 1980. 35p. Available ERIC. ED 196 860.

An experiment was conducted on the effects of two teacher variables and student engagement on science achievement. The variables included: teacher wait-time, defined as the length of the pause preceding a teacher utterance; and questioning quality, a generic term used to describe cognitive level, clarity, and relevance of questioning. Thirteen middle school teachers were randomly assigned to four groups to receive feedback on: wait-time and questioning quality; wait-time only; questioning quality only; and placebo feedback only. The feedback was designed to increase teacher wait-time beyond three seconds and to increase the quality of teacher questioning. Twelve students were selected from each class in order to estimate rates on nine different categories of engagement. Measures of formal reasoning ability and locus of control were obtained for all students in the study. Variation in science achievement was significantly related to variation in teacher wait-time, formal reasoning ability, and two categories of student engagement (attending and generalizing). The results indicated that achievement may be increased by using a mean teacher wait-time of approximately three seconds and ensuring that students are maximally engaged on the instructional objectives.

*534. Tobin, Kenneth G., and William Capie. Relationships between Classroom Process Variables and Middle-School Science Achievement. Journal of Educational Psychology, v74 n3 p441-54 Jun 1982.

Science achievement was found to be significantly related to teacher variables and pupil engagement when teacher waiting time (TWT) and question quality were manipulated. Pupil attending and generalizing were enhanced by a mean TWT of 3 seconds when questions were relevant, clear, and at varied cognitive levels.

**535. Tobin, Kenneth G., and William Capie. Wait-Time and Learning in Science. AETS Outstanding Paper for 1981. 1981. 11p. Available ERIC. ED 221 353.

An understanding of classroom learning requires careful analyses of variables constituting the learning environment. Among those most likely influencing learning are verbal behaviors, since verbal interaction is the principal mode of communication in most classrooms. Thus, the quality of verbal interaction may directly affect the amount of learning that occurs. Although much research on verbal interaction has dealt with aspects of teacher questioning, the results have tended to be inconsistent. In contrast, a variable called "wait-time," which is related to the duration of certain pauses between speakers, has been shown to have a consistent effect on the quality of verbal interaction that occurs in classrooms. Using the preceding as a rationale, the nature of wait-time is discussed, followed by three alternative conceptualizations (definitions) of wait-time. Results from several wait-time studies are reviewed, reporting the changes in student/teacher behavior resulting from prolonging wait-time, effects on process variables, effects on science achievement and other variables, and studies related to changing teachers' wait-time behavior.

**536. Trabasso, Tom. On the Making of Inferences During Reading and Their Assessment. Technical Report No. 157. Urbana: Illinois Univ., Center for the Study of Reading. 1980. 38p. Available ERIC. ED 181 429.

This report examines how the making of inferences plays a role in the comprehension of narratives. The report poses and discusses seven questions: What are inferences? What functions do they perform? What is required to make inferences? What processes are involved? What kinds of inferences are there? How can readers' inferences be assessed? Can comprehension be promoted through asking inferential questions?

537. Turner, Pauline H. Teacher Level of Questioning and Problem Solving in Young Children. Home Economics Research Journal, v8 n6 p399-404 Jul 1980.

To determine the effects of a teacher's level of questioning on the development of children's problem-solving ability, children were exposed to three five-week treatment conditions in a half-day laboratory nursery school program. High-level cognitive questioning seemed to result in children's ability to generate significantly more alternative solutions to problems.

**538. Warren, Steven F., and Patrick Rimell. Increasing Questions to Retarded Children: An Analysis of Multiple Effects. Paper presented at the annual meeting of the Association of Behavior Analysis, Dearborn, MI., 1979. 16p. Available ERIC. ED 181 685.

Multiple effects of an increased rate of teacher questions on the verbal behavior of three institutionalized severely retarded children were investigated. Teachers were observed in training situations with the students and were then instructed to increase the number of questions requiring answers other than "yes" or "no." Results showed that the teachers noted several positive effects, that as their question asking ability improved, the students gave more varied responses and began to initiate more speech in general and answer questions with less prompting. The behavior covariations are discussed in terms of their desirability, causality, generality, predictability, strength, durability, and magnitude.

**539. Wiesendanger, Katherine D., and others. A Summary of Studies Related to the Effect of Question Placement on Reading Comprehension. 1978. 14p. Available ERIC. ED 179 934.

Of 21 studies on the effect that question placement had on reading comprehension, ten favored and eleven opposed the use of prequestions. A review of these studies suggests that the issue is not whether prequestions or postquestions produce greater gains in reading comprehension. What remains to be examined is the change in reading comprehension that occurs with the interaction between question placement and such variables as sex, intelligence, and socioeconomic background.

540. Wiesendanger, Katherine D., and others. A Summary of Studies Related to the Effect of Question Placement on Reading Comprehension. Reading Horizons, v23 n1 p15-21 Fall 1982.

Reviews 22 studies dealing with the effect of question placement on reading comprehension. Shows that 10 favored and 12 opposed the use of prequestions.

*541. Wilen, William W. Questioning Skills, for Teachers. What Research Says to the Teacher. Washington, D.C.: National Education Association, 1982. 33p. Available ERIC. ED 222 488. Microfiche only.

This publication reviews research findings related to the verbal questioning behaviors and practices of teachers. It emphasizes current research related to the impact of questioning practices on student thinking, achievement, and attitudes. This includes questioning techniques and strategies and approaches to analyzing classroom questions. A list of teaching suggestions synthesized from a variety of research studies dealing with questioning is presented: (1) plan key questions to provide lesson structure and direction; (2) phrase questions clearly and specifically; (3) adapt questions to student ability level; (4) ask questions logically and sequentially; (5) ask questions at a variety of levels; (6) follow up student responses; (7) give students time to think; (8) encourage student questions; and (9) use questions that encourage wide student participation. These techniques are discussed and analyzed as they apply to improvement of teachers' questioning practices and the impact on learning outcomes. The final section of the monograph is devoted to methods for improving teachers' questioning practices.

542. Wilson, Molly M. The Effects of Question Types in Varying Placements on the Reading Comprehension of Upper Elementary Students. Reading Psychology, v1 n2 p93-102 Spr 1980.

Reports that sixth- and seventh-grade average readers performed better than below average readers on inferential and multiple choice questions on two of three passages read but that there were no differences for factual questions. Also reports that there were no effects for question placement on any passage.

*543. Winne, Philip H. Experiments Relating Teachers' Use of Higher Cognitive Questions to Student Achievement. Review of Educational Research, v49 n1 p13-49 Win 1979.

Twenty studies of the effects of teacher questions on student achievement were reviewed. Internal validity of experiments and integrity of treatments were less adequate than population and ecological validity. Whether teachers used predominantly higher cognitive or predominantly fact questions was found to make little difference in achievement.

544. Wong, Bernice Y.L. Increasing Retention of Main Ideas through Questioning Strategies. Learning Disability Quarterly, v2 n2 p42-47 Spr 1979.

Results of the study involving 30 learning disabled and 30 normally achieving fifth graders indicated that questions increase the retention of main ideas in learning disabled children; however, questions had little effect on the retention of main ideas in normally achieving children.

9. REINFORCEMENT, FEEDBACK, PRAISE, BEHAVIOUR MODIFICATION

**545. Aschbacher, Pamela Robinson. Effects of Achievement Standards and Self-Rewards on Children's Task Mastery. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, 1979. 28p. Available ERIC. ED 167 257.

This study of self-reinforcement in children's learning looks at two key variables in the self-reinforcement process: the type of reward available and the level of achievement requisite for reward. The study was conducted to clarify the relative efficacy of self-dispensed verbal and tangible rewards for learning. The study also attempted to replicate previous findings regarding the effects of different minimum performance standards on learning rate. The performance of 69 preschool children (aged 4 1/2 to 5 1/2) on a discrimination learning task had to meet one of three standards to deserve a reward: chance level, 100% correct, or continued improvement. Self-dispensed rewards were either praise or tokens exchanged for small prizes. A control group learned the task sans standard or reward. Children learned faster when they rewarded themselves with tokens than with praise. Results reflect a developmental view of reinforcer effectiveness. Previous findings regarding performance standards were not replicated. The internal standards of many children superseded the experimenter-set standards for performance.

546. Atkeson, Beverly M., and Rex Forehand. Home-Based Reinforcement Programs Designed to Modify Classroom Behavior: A Review and Methodological Evaluation. Psychological Bulletin, v86 n6 p1298-1308 Nov 1979.

Reviews and evaluates the current research on the use of home-based reinforcement programs to modify both disruptive and academic behaviors in the classroom.

**547. Au, Kathryn. The Development of a Token Reinforcement System for a Specific Lesson. Technical Report #11. Honolulu: Kamehameha Schools. Kamehameha Early Education Project, 1974. 8p. Available ERIC. ED 158 837.

This paper presents a brief description of a token reinforcement system developed for a kindergarten language class in the Kamehameha Early Education Program (KEEP). Visual reinforcers (colored plastic tabs) were placed next to the names of individual children (each time they made a correct response) on a large chart in the front of the room. Five or more correct responses during a session entitled the child to a "good work aware" (a piece of paper) which, in turn, enabled the child to "take a run" outdoors. A resultant increase in the total amount of reinforcement (verbal and non-verbal) given to individual children during the lesson was noted.

*548. Bailey, Gerald Douglass. Improving Classroom Instruction with Student Feedback. Educational Technology, v18 n10 p39-43 Oct 1978.

Twelve factors which need to be considered when planning to use student feedback for improving instruction are discussed, including advantages and disadvantages, instrument selection and/or design, student attitudes, variables involved, teacher attitudes, and utilization of the data collected.

*549. Bardwell, Rebecca. Feedback: How Does It Function? Journal of Experimental Education, v50 n1 p4-9 Fall 1981.

A study of feedback delay, expectation, and development was conducted in grades four, six, and eight, to assess whether feedback on a school related learning task serves an informational or reinforcing function. Results indicate that feedback serves an informational function and delayed feedback facilitates retention, contrary to reinforcement theory rules.

*550. Barringer, Craig, and Barry Gholson. Effects of Type and Combination of Feedback upon Conceptual Learning by Children: Implications for Research in Academic Learning. Review of Educational Research, v49 n3 p459-78 Sum 1979.

Laboratory research that compared the effects of various types and combinations of feedback on children's conceptual learning was reviewed and evaluated in terms of theories involving reinforcement, motivation, and information-processing interpretations. It was concluded that some important laboratory research findings and implications have been overlooked.

*551. Barth, Richard. Home-Based Reinforcement of School Behavior: A Review and Analysis. Review of Educational Research, v49 n3 p436-58 Sum 1979.

Twenty-four studies are reviewed for home-based reinforcement of school behavior as a method for motivating behavioral change. It is noted that the technique has been used successfully with children in group homes and in special classes, and with entire mainstreamed and special classrooms.

*552. Bates, John A. Extrinsic Reward and Intrinsic Motivation: A Review with Implications for the Classroom. Review of Educational Research, v49 n4 p557-76 Fall 1979.

The notion that certain systems of reward may inhibit children's desire to participate in educational activities was investigated by reviewing recent research on intrinsic motivation. This research was critiqued from four theoretical perspectives: self-perception theory, personal causation, the overjustification hypothesis, and behavioral contrast.

*553. Bloom, Robert B., and Linda Bourdon. Types and Frequencies of Teachers' Written Instructional Feedback. Journal of Educational Research, v74 n1 p13-15 Sep-Oct 1980.

Because many teachers demonstrate limited use and knowledge of feedback strategies positively associated with student achievement, providers of preservice and inservice teacher education should review feedback research and instruct teachers on its effective use.

**554. Brandt, Mary E., and others. The Effect of Contingent Reinforcement on the Acquisition of Sight Vocabulary. Technical Report No. 49. Honolulu: Kamehameha Schools. Kamehameha Early Education Project, 1976. 17p. Available ERIC. ED 159 591.

The present study is a replication of a Lahey and Drabman study (1974) which investigated the effects of contingent versus noncontingent reinforcement on the learning of sight words. The subjects in this study were 14 Kamehameha Early Education Program (KEEP) students who composed the lowest reading group in a combined first-second grade classroom. Previous research had shown contingent reinforcement to be effective with slow learners. However, contrary to Lahey and Drabman's findings, no differences were found between the group receiving contingent (token) reinforcement and the group receiving noncontingent reinforcement (no token). The results are explained in terms of the reinforcement histories of the children. That is, previous experience with reinforcement may have faciliated generalization of learning behavior to the task for both groups, and/or the noncontingent reward group interpreted the reward to be contingent on their performance.

555. Brimner, Larry Dan. The Effects of Praise and Blame on Writing. English Journal, v71 n1 p58-60 Jan 1982.

Reports on a study that indicated the development of unhealthy attitudes toward writing in students who received negative feedback.

*556. Brophy, Jere. On Praising Effectively. Elementary School Journal, v81 n5 p269-78 May 1981.

Reviews research on teachers' praise in the classroom and proposes specific guidelines for helping teachers praise effectively. Time, concentrated attention, and individualization of remarks according to the student and the situation are considered crucial factors in praising effectively.

*557. Brophy, Jere. Teacher Praise: A Functional Analysis. Review of Educational Research, v51 n1 p5-32 Spring 1981.

Teacher praise typically does not function as a reinforcer. Rather, it is reactive to and under the control of student behavior. Its effects must be understood using concepts from attribution and social learning/reinforcement theories.

**558. Broughton, Sam F. Effects and Noneffects of Reinforcement for Academic Performance. Paper presented at the meeting of the Midwestern Association of Behavior Analysis, Chicago, 1978. 19p. Available ERIC. ED 186 794.

Reinforcement for academic performance has been shown to increase both correct academic responding and rates of on-task behavior. Reinforcement for attending and on-task behavior has failed to increase correct academic responding in many studies, but it has produced vicarious and sociometric changes. The occurrence of vicarious and sociometric effects with academic contingencies was investigated. Subjects were normal fourth-grade students with mild classroom behavior and math performance problems. One child in each of three pairs of students was reinforced for correct completion of math problems. Both treated and untreated children were observed to determine whether academic performance, classroom behavior, and sociometric status improved with treatment. Only the performance and behavior of treated children improved. Untreated children failed to improve substantially in math performance and actually deteriorated in on-task behavior. Sociometric status remained unchanged for all children.

559. Buckalew, L.W., and Patricia Bowman Buckalew. Behavioral Management of Exceptional Children Using Video Games as Reward. Perceptual and Motor Skills, v56 n2 p580 Apr 1983.

Seventeen children ranging in age from 9 to 15 years and from grades four and eight in five classes for students with emotional conflicts were placed on a video game reward system. The observation of enhanced classroom decorum and individual performance of students suggest the effectiveness of this reward in modifying behavior.

*560. Buckholdt, David R., and John S. Wodarski. The Effects of Different Reinforcement Systems on Cooperative Behaviors Exhibited by Children in Classroom Contexts. Journal of Research and Development in Education, v12 n1 p50-68 Fall 1978.

This paper reviews experiments conducted at CEMREL in St. Louis, on individual and group reinforcement for tutoring.

It summarizes results on how reward structures relate to effective student cooperation and how rewards interact with other variables such as subject area, classroom size, and age. Further research issues are proposed.

561. Caldwell, Judith. Basic Techniques for Early Classroom Intervention. Pointer, v24 n1 p53-60 Fall 1979.

Basic management of disruptive classroom behavior is a necessary aspect of classroom control. Three basic techniques are planned: ignoring, in which inappropriate behavior is not reinforced; signal interference, in which nonverbal signals on the part of the teacher affect behavior change; and proximity control, in which the teacher's physical proximity to the disturbance brings about desired behavior change.

562. Chandler, Theodore A. What's Wrong with Success and Praise? Arithmetic Teacher, v29 n4 p10-12 Dec 1981.

The dynamics of success and praise are discussed. Guidelines designed to improve the chances of successful use are provided. A checklist of eight questions teachers can ask themselves about the use of praise is included.

563. Chiron, Robert, and Kathryn Gerken. The Effects of a Self-Monitoring Technique on the Locus of Control Orientation of Educable Mentally Retarded Children. School Psychology Review, v12 n1 p87-92 Win 1983.

The effects of a specific self-monitoring technique (charting) on promoting changes in the locus of control (LOC) orientation of educable mentally retarded children (n=91) were investigated. The relationship between LOC orientation and the children's chronological age was also investigated.

564. Christian, Barry T. A Practical Reinforcement Hierarchy for Classroom Behavior Modification. Psychology in the Schools, v20 n1 p83-84 Jan 1983.

Proposed a practical reinforcement hierarchy for classroom-based behavior modification programs. The seven-level hierarchy ranged from primitive consequences (Infantile Physical Contact and Food) through the more abstract consequences (Praise and Internal Self-Reinforcement). Suggestions were made for using the hierarchy in teacher consultation and behavior modification planning.

**565. Chun, Sherlyn, and Violet Mays. "Good Work Awards: "Effects on Children's Families. Technical Report #12. Honolulu: Kamehameha Schools. Kamehameha Early Education Project, 1974. 7p. Available ERIC. ED 158 838.

This brief report describes parental reaction to a reinforcement strategy used with children in the Kamehameha Early Education Program (KEEP). Staff members report that "Good Work Awards" (GWAs) are viewed favorably by mothers of students. GWAs are dittoed notes sent home with children when they have met a minimum criterion for daily classroom work. Parent interviews indicate that children enjoy the attention paid at home to them and the awards and that parents apparently feel better informed about their children's progress in school when GWAs are brought home frequently. Some parents further reinforce their children when GWAs are brought home. While the effects of the awards appear positive, further analysis of their uses and functions is suggested.

**566. Classroom Discipline. Research Action Brief Number 5. Eugene: Oregon Univ., ERIC Clearinghouse on Educational Management, 1979. 5p. Available ERIC. ED 173 898.

This Research Action Brief describes five studies designed to test techniques for decreasing disruptive student conduct in the secondary school classroom. The two behavior modification studies discussed showed strong positive results. Questions remain, however, concerning the permanence of behavior changes that are dependent on reward systems and concerning the wisdom of associating appropriate behavior with rewards not intrinsic to the behavior itself. The two humanistic studies in class management concentrated on the rapport created between students and teachers. The first involved teaching communication techniques to teachers, while the second revealed that alternative schools suffer from far fewer disciplinary problems than do traditional schools. The fifth study combined elements of both types of approach. A high level of interaction between teacher and student, derived from humanist thinking, was used as the reward in a system derived from behavior modification.

*567. Clifford, M.M. The Effects of Quantitative Feedback on Children's Expectations of Success. British Journal of Educational Psychology, 48, 220-6 Jun 1978.

A pair of studies conducted with first, third, and fifth graders supports the prediction that concrete, quantitative feedback, as opposed to qualitative comments, increases the validity of children's expectations of their level of performance.

*568. Coupland, Lynn, and others. Reduction of Inappropriate Noise Through the Use of Token Economy. B.C. Journal of Special Education, v5 n1 p65-75 Spr'81.

A token economy program was introduced to reduce the frequency of inappropriate noise in a first grade classroom. An ABABCD single subject experimental design was employed. The following conditions were in effect during the program; Pre-baseline, Baseline I, Token Economy I, Baseline II, Token Economy II, Fading I, and Fading II. The entire class was involved in the study, with data collection taken on four target students. The results indicated that the program reduced inappropriate noise for all four students. Subjective data, taken at the end of the experiment, revealed a positive change in classroom atmosphere. The teacher continued to carry out the program after formal data collection ceased.

569. Crapps, John, and others. Reinforcing Moderately and Severely Retarded Students for On-Task Behavior and Production Rate: A Comparison during Two Tasks of Varying Complexity. Career Development for Exceptional Individuals, v6 n1 p31-42 Spr 1983.

The mean production rate for five moderately/ severely mentally retarded students (9 to 18 years old) was higher when reinforcement was provided contingent to production than when it was provided contingent to ontask behavior. Data suggested that there may be inherent differences in the susceptibility of simple versus complex tasks to external reinforcement.

*570. Csapo, Marg. Rates of Teacher Approval and Disapproval in "Slow", "Average" and "Above Average" Classrooms. B.C. Journal of Special Education, v2 n3 p265-268 Fall'78.

The Teacher Approval and Disapproval Observation Record (TAD) was used to collect data on teacher approval and disapproval in grade 3 and 4 classes categorized by principals as "slow", "average", and "above average". The hypotheses that the slower the rate of student learning the lower the rate of teacher approval, and the faster the rate of student learning, the higher the rate of teacher approval were tested.

571. Curwin, Rick. Are Your Students Addicted to Praise? Instructor, v90 n3 p61-62 Oct 1980.

The author asserts that students can get "hooked" on praise to the point that they limit their creativity and manipulate others in search of it. He notes that teachers too may use praise manipulatively. He suggests ways for kicking this habit, primarily through more objective reinforcement messages. Three educators respond.

572. Derevensky, Jeffrey L., and Malcolm I. Rose. Teacher Preferences for Various Positive Reinforcements. Psychology in the Schools, v15 n4 p565-70 1978.

Investigated the relationship between applied behavioral training and reinforcement preferences of classroom teachers. Data obtained from the Positive Reinforcement Observation Schedule, a paired comparison task, indicated minimal differential reinforcement preferences for classroom teachers with no training, limited training, or extensive training in applied behavioral analysis.

*573. Dolly, John P., and others. The Effect of Negative Feedback on Modeling Behavior. Journal of Educational Research, v71 n6 p324-27 Jul-Aug 1978.

A study of modeling behavior shows that undergraduate students who received negative feedback about their ability on a particular task tended afterward to imitate the poor models.

574. Drew, Barry M., and others. Increasing Assignment Completion and Accuracy Using a Daily Report Card Procedure. Psychology in the Schools, v19 n4 p540-47 Oct 1982.

Examined the effects of daily report cards designed to increase the completion and accuracy of in-class assignments in two youngsters described as having a behavioral history of difficulty in completing seat work. Use of the procedure produced immediate significant changes in rates of both completion and accuracy.

575. Edwards, Clifford H., and Michael Surma. The Relationship between Type of Teacher Reinforcement and Student Inquiry Behavior in Science. Journal of Research in Science Teaching, v17 n4 p337-41 Jul 1980.

Determines the effect on inquiry of different contingencies of reinforcement. Classes of biology students were exposed to one of four treatments: verbal reinforcement and mimicry; using student ideas as reinforcers; using special privileges as reinforcers; and no reinforcement. Results include verifications that verbal reinforcement and mimicry reduce inquiry.

*576. Fish, Marian C., and Mary Alice White. The Effects of Verbal Reinforcement, Interest, and "Usable Performance Feedback" upon Task Performance. Journal of Experimental Education, v47 n2 p144-48 Win 1978.

The influence of student task interest and of usable performance feedback on the effectiveness of verbal reinforcement was investigated in fifth graders who received approval, disapproval, or neutral reinforcement. Neither reinforcement nor reinforcement-task variable interaction provided enough motivation to improve accuracy of task performance.

577. Ford, Lisa, and Sylvia Rosenfield. An Interview in a "Special" Class. School Psychology Review, v9 n1 p99-103 Win 1980.

Behavior of eight emotionally disturbed boys improved dramatically after a school psychologist observed their class and suggested management techniques. The psychologist clarified the teacher's role as educator, not clinician; restructured the daily schedule; increased the teacher's understanding of reinforcement; and implemented a token economy program.

578. Gable, Robert A., and Phillip S. Strain. Individualizing a Token Reinforcement System for the Treatment of Children's Behavior Disorders. Behavioral Disorders, v7 n1 p39-45 Nov 1981.

A token reinforcement program at a residential center operates on a point card system which measures daily work quality and attitude, academic involvement, self-maintenance, peer and adult interactions, and self-control in behavior disordered children. Issues in the program's administration, including unresponsiveness and use of daily feedback, are discussed.

579. Glover, John A. Group Structure and Creative Responding. Small Group Behavior, v10 n1 p62-72 Feb 1979.

Compares the relative levels of creative behavior emitted in (1) noncontingent reinforcement, noncompetitive, nonevaluative, self-organized groups (laissez-faire); (2) groups with evaluation, competition, and individual reinforcement contingencies; and (3) groups with evaluation, competition, and group-shared contingencies of reinforcement.

**580. Golub, Lester S., and Gladys M. Sweeney. Improving Academic Performance in a Bilingual Education Classroom. Paper presented at the annual International Bilingual Bicultural Education Conference, Boston, 1981. 14p. Available ERIC. ED 208 644.

The purpose of this study is twofold. First, it evaluates the effectiveness of token economy programs in increasing academic performance in a bilingual education classroom setting. Second, it attempts to train the teacher in the basic behavior modification principles and assist her/him in the delivery of appropriate and consistent reinforcement contingencies. The token economy system was developed to strengthen completion and accuracy of the students' performance. In this system, children earn, for their efforts, recognition points that may be exchanged for a variety of activities, privileges, and priorities. Students may also lose points by misbehaving. The results of a study indicate that reinforcement of academic performance increased the percentage of correct answers by a group of students. Evidence also shows that decreasing disruptive activities in the classroom does not necessarily increase academic performance. By focusing on academic performance, the teacher's efforts are enhanced and the student's potentials are optimized. A list of daily and weekly reinforcements is included.

581. Guzicki, Joseph A., and others. Reductions in Anxiety and Improvements in Teaching Associated with Cue-Controlled Relaxation Training. Journal of School Psychology, v18 n1 p17-24 Spr 1980.

Examined efficacy of cue-controlled relaxation in reducing anxiety of two elementary school teachers. Both teachers exhibited significant reductions in motoric manifestations of anxiety. Both showed increases in rewarding behavior. They reduced disapproving behavior to zero on most days. Training in self-management of stress significantly affected anxiety and teaching behaviors of teachers.

582. Hannafin, Michael J. The Effects of Systematized Feedback on Learning in Natural Classroom Settings. Educational Research Quarterly, v7 n3 p22-29 Fall 1982.

The effect of systematized feedback on mathematics performance in natural classroom settings was examined. Three sixth-grade classes served as subjects during the 12-week study. A 25-item computation posttest was administered. Results confirm the effectiveness and practicality of comprehensive feedback programs in natural classroom settings.

583. Harackiewicz, Judith M. The Effects of Reward Contingency and Performance Feedback on Intrinsic Motivation. Journal of Personality and Social Psychology, v37 n8 p1352-63 Aug 1979.

Examines the effects of reward contingency and positive performance feedback on subsequent intrinsic motivation for an enjoyable task. Subjects were 93 high school students.

*584. Hargreaves, N.E., and T.F. McLaughlin. Reducing Absences and Tardiness in a Junior Secondary Special Education Classroom: The SCOPE Program. B.C. Journal of Special Education, v5 n1 p23-32 Spr'81.

The effect of a reinforcement program on the rate of attendance and tardiness was examined in an ABAC design across four male special education junior high school students. Behavior was monitored by direct teacher contact. The results indicated an increase in attendance and a decline in the frequency of tardiness during the token program. Data collected during the baseline phases revealed that attendance was low and tardiness high. When the program was gradually withdrawn, appropriate behavior remained at a high level. Follow-up was limited to a two week period, but indicated maintenance of behavior change.

*585. Hartley, James, and others. Underlining Can Make a Difference--Sometimes. Journal of Educational Research, v73 n4 p218-24 Mar-Apr 1980.

In this investigation, underlined words in a text were recalled both immediately and in the long term significantly better by students who had studied the text, and this result was not obtained at the expense of other items of information in the text.

586. Heitman, Robert J., and Joseph E. Justen, III. Effects of Social Reinforcement on Motor Performance of Trainable Retarded Students on Speed and Persistence Tasks. Perceptual and Motor Skills, v54 n2 p391-94 Apr 1982.

The effects of social reinforcement on two motor tasks by 40 retarded adolescents with high (8.09 yr.) and low (5.45 yr.) mental ages was investigated. Social reinforcement influenced persistence but not speed of performance. The effectiveness of praise on retarded subjects' performances varies with the type of motor task used.

*587. Hett, Geoffrey G. Two Types of Behaviour Management Programs and Their Effects Upon Student Achievement (Non-attending Behaviour). Canadian Journal of Education, v6 n1 p32-41 1981.

This report summarizes the outcome of treatment programs for boys exhibiting problems subsumed under the label "nonattending". Twenty-seven children referred by their teachers were randomly assigned to two treatment conditions and a control condition. Treatment for one group consisted of training the teachers to alter the non-attending behaviors of the problem child. Treatment for the second group was also conducted within the classroom, but by an experimenter as well as the teacher. Direct observations were made in the classroom before, during and after intervention. The data showed a significant difference between means at posttreatment between the group conducted by the experimenter and the control group. Follow-up indicated a loss of part of the desired effect for this group, while the teacher group maintained the gains achieved. There were no significant differences between groups on achievement scores.

*588. Hiebert, Bryan A., and Steve Carlyle. A Time-Paying Program for Disruptive Classes. School Guidance Worker, v37 n3 p31-34 Jan-Feb'82.

A contingency management program was developed by the authors to reduce disruptive behaviour while increasing class co-operation in a Grade 7 Mathematics class. For every five minutes of disruption-free time, students were awarded one minute of free time to be claimed during the Friday session. The free time earned increased as the program progressed. During the fourth week of the program a scheduled test was given and the whole class passed the exam. Both students and teacher appeared to become more satisfied with the class as the program continued.

**589. Hodges, Daniel L. How to Improve Your Students' Learning through Practice Exercises and Feedback. 1980. 7p. Available ERIC. ED 220 150.

Research indicates that students' learning performance can be improved through techniques of "action-feedback-correction," which involves the student answering questions, feedback on which answers are right and which wrong, and repetition of the process until the right answer is achieved. Such a system can easily be devised using objective practice exercises and standard answer sheets, on which incorrect answers are marked, but not corrected, before the sheets are returned to the student. Efforts should be made to ensure that students do not cheat; that they do not answer the questions until they have studied the assignment or read the material; and that the scoring, feedback, and correction parts of the process are carried out. Time can be saved through scoring the tests by machine, as opposed to by hand, although hand-scoring increases the link between student and instructor. Instructors can minimize the time spent in writing questions by focusing on the fundamentals section of the course, e.g., on key definitions, problem-solving techniques, and critical principles. The benefits of the action-feedback-correction technique include individualized instruction at low cost, a clear communication of learning objectives, improved student learning, and better monitoring of student progress.

**590. Hoffman, James V. Feedback to Oral Reading Miscues. Parts I & II. Final Report. 1982. 174p. Available ERIC. ED 227 455.

The first two parts of a three-part final report on a series of studies that examined the nature, characteristics, and effects of verbal feedback to student reading miscues are contained in this volume. Part I consists of a summary of the nine specific objectives of the research, an overview of the project's methods, and the findings for each of the objectives. The introductory sections in part II contain the project's rationale, a short history of oral reading pedagogy, and information on the nature of teacher verbal feedback to miscues. The largest portion of this section contains comprehensive summaries of three major and several follow-up studies. An extended discussion of the studies' findings and the implications of these results for instruction and future research completes the volume.

**591. Hoffman, James V. Feedback to Oral Reading Miscues. Part III. Final Report. 1982. 305p. Available ERIC. ED 227 456.

The third part of a three-part final report on a series of studies that examined the nature, characteristics, and effects of verbal feedback to student reading miscues, this volume contains articles and unpublished manuscripts that have been written as part of the project. The 12 articles cover the following topics: (1) the place of oral reading in a developmental reading program; (2) the history of oral reading instruction; (3) teacher beliefs, attitudes, and preferred practices in oral reading instruction; (4) the relationship of theoretical orientation to reading and teacher verbal feedback during reading instruction; (5) teacher verbal feedback to the reading miscues of high and low achieving students; (6) students' beliefs and attitudes about oral reading istruction; (7) providing feedback to reading miscues; (8) characterizing teacher feedback to student miscues during oral reading instruction; (9) training for a feedback to oral reading analysis system; (10) inservice and preservice teacher feedback to student miscues; (11) guided oral reading and miscue focused verbal feedback in second grade classrooms; and (12) the effects of differentiated patterns of verbal feedback to miscues on word identification strategies and success.

**592. Hoffman, James V., and Richard Clements. A Descriptive Study of the Characteristics of Miscue Focussed Verbal Interactions between Teacher and Student during Guided Oral Reading. Paper presented at the annual meeting of the International Reading Association, New Orleans, 1981. 37p. Available ERIC. ED 200 946.

A study was conducted to describe the characteristics and effects of the verbal feedback offered by teachers to student miscues occurring during group oral reading instruction. Analyses were also made of the ways in which teachers varied feedback between students at different ability levels. The subjects were eight second grade teachers and their regular reading groups. Two teachers had one reading group each, four teachers had two reading groups, and two teachers had three reading groups, making a total of 16 reading groups. Each group was videotaped on four separate occasions. Miscue-focused interactions were coded using the FORMAS taxonomy. Guided oral reading was found to be a significant part of reading instruction. Teacher verbal feedback to miscues occurred with some frequency with both the high and the low ability groups. Good and poor readers were found to be significantly different in their miscue patterns and subsequent reaction strategies, and teachers were found to be significantly different in their verbal response patterns to the two groups. The findings can be interpreted in terms of a mutually adaptive cycle that serves to reinforce existing patterns of behavior between teacher and groups.

*593. Jensen, Ann. Classroom Rewards: Do They Really Work? American Educator, v7 n1 p32-33 Spr 1983.

A study by Yanouzas and Sanders shows that positive feedback works sometimes and with some students. Such feedback, however, should be personalized and should not be automatic, i.e., either unwarranted or inexplicitly related to the student's work.

*594. Jenson, William R. Behavior Modification in Secondary Schools: Review. Journal of Research and Development in Education, v11 n4 p53-63 Sum 1978.

Reviews the use of behavior modification to control behavior problems in secondary schools. The literature reviewed demonstrates the effectiveness of behavior modification with both average and very difficult students. Describes behavioral techniques, such as group contingencies, home-based reinforcement systems, and contingency contracting, as economical procedures for delivering behavioral changes.

*595. Joseph, Cuthbert H., and Thomas O. Maguire. The Interaction between Time of Feedback and Academic Self-Concept on Level of Performance in Arithmetic Skill. Journal of Educational Research, v75 n6 p360-65 Jul-Aug 1982.

The effects of using immediate feedback versus feedback delayed by 24 hours on academic self-concept and performance in arithmetic were studied, using 236 fourth graders as subjects. Delayed feedback seemed to benefit students with low perceptions of their academic ability; other students were unaffected by the type of feedback.

596. LaRowe, L. Nell, and others. Lunchroom Noise Control Using Feedback and Group Contingent Reinforcement. Journal of School Psychology, v18 n1 p51-57 Spr 1980.

Examined reduction of noise levels in an elementary school lunchroom as a function of feedback. Results indicate that feedback plus reinforcement was effective in reducing noise levels. Feedback only was also effective, but to a lesser degree. No relationship existed between noise level and other behaviors.

597. L'Heureux, R.A., and T.F. McLaughlin. Effects of Extrinsic Rewards in the School and Home on Arithmetic Responses of a Mainstreamed Student. B.C. Journal of Special Education, v4 n4 p383-389 Win'80.

No annotation available.

598. Luiselli, J.K., and others. Application of Differential Reinforcement to Control Disruptive Behaviours of Mentally Retarded Students during Remedial Instruction. Journal of Mental Deficiency Research, v25 n4 p265-73 Dec 1981.

Procedures consisted of delivering an edible treat to Ss if they failed to exhibit specified problem behaviors during selected time frames. Results provided support for the efficacy of differential reinforcement of other behavior (DRO) in reducing management problems of mentally retarded children.

**599. Lujan, Jaime. How Teacher Behavior Relates to Student Effort in Classrooms for Low and High Status Students. 14p. Available ERIC. ED 193 222.

Differential treatment of students by teachers (degree of warmth and friendliness) is helping to account for the failure of low-achieving students. Warm, friendly teacher behavior does not affect student academic achievement directly. Achievement requires effort-engagement on the part of the student as a necessary but not a sufficient condition for successful performance. Teacher warmth influences primarily effort-engagement behaviors which in turn affect achievement. Nineteen teachers were observed in 109 high school class sessions in a suburban school, and 24 racially integrated elementary classes were observed with race as a status characteristic to compare behavior towards low-achieving and high-achieving students. Praise was recorded whenever a teacher made positive encouraging remarks about student effort or academic work either individually, in small groups, or to the entire class. Data reveal that low-achieving and low status students who are unable to do grade level work perceive that the teacher is warm and friendly. Students who are high in academic skill level perceive teachers as less warm. There is some evidence that teacher praise is not seen as a reward for work well done but as part of a diffuse reinforcing of the individual. Further study of teacher warmth is needed.

**600. Lyles, Carolyn. Teacher Response to Student Effort: The Frequently-Overlooked Key to Success in Teaching. Paper presented at the annual meeting of the National Council of Teachers of English Spring Conference, Minneapolis, 1982. 11p. Available ERIC. ED 217 493.

The single most important thing that a teacher can do for a student is to identify and label specifically what the child does right rather than what he or she does wrong. In an elementary school where students wrote every day and teachers marked every error, students began to write less, using simpler words and eliminating all meaningful writing. A new approach was tried in which the teachers remarked on at least one good aspect of every paper. Gradually, those qualities regarded as desirable appeared more frequently. When the teachers came across something they did not understand, they talked it over with the student. From this positive approach three rules for teacher response were devised: (1) respond to what is right or correct; (2) identify and label specific, desirable qualities; and (3) when helping a student, use specific and positive phrasing that focuses the writer on a problem he or she can solve. These three rules also proved effective in reading instruction. When a teacher began using positive specific responses to first and second grade students' oral reading, student performance improved rapidly. When children completed workbook drills, it appeared more effective to repeat the directions by spotting children who were following the directions and describing what they were doing correctly, than to repeat the directions in disgust to a child who did not listen or who forgot.

*601. Lysakowski, Richard S., and Herbert J. Walberg. Classroom Reinforcement and Learning: A Quantitative Synthesis. Journal of Educational Research, v75 n2 p69-77 Nov-Dec 1981.

A review of statistical data from previous studies determined the benefits of positive reinforcement on learning in students from kindergarten through college. Results indicate that differences between reinforced and control groups are greater for girls and for students from special schools and that reinforcement appears to have a strong effect on classroom learning.

**602. Lysakowski, Richard S., and Herbert J. Walberg. Classroom Reinforcement and Learning: A Quantitative Synthesis. Paper presented at the annual meeting of the American Educational Research Association, Boston, 1980. 43p. Available ERIC. ED 206 044.

To estimate the influence of positive reinforcement on classroom learning, the authors analyzed statistical data from 39 studies spanning the years 1958-1978 and containing a combined sample of 4,842 students in 202 classes. Twenty-nine characteristics of each study's sample, methodology, and reliability were coded to measure their effects on reinforcement and learning. The types of reinforcement tested ranged from intangible social approval to tangible (even edible) objects. Statistical analysis using regressions and analysis of variance showed that reinforced students have markedly higher learning outcomes than do non-reinforced control students. Contrary to previous theory and opinions, the strong effects of instructional reinforcement appear constant across grades (kindergarten through college), socioeconomic levels, race, private and public schools, and community types. Tangible reinforcements may be slightly more effective than intangible ones, and female and special-school students may be slightly more affected by reinforcements, but generally there is little strong evidence that some types of reinforcers are more effective than others.

603. Madsen, Clifford K. Music Lessons and Books as Reinforcement Alternatives for an Academic Task. Journal of Research in Music Education, v29 n2 p103-10 Sum 1981.

This study of a third-grade class investigated two academic rewards as contingencies for correct math responses: receipt of books and viewing of televised music lessons. Results indicated that both types of rewards functioned to increase math performance. The televised lessons also led to gains in music knowledge.

604. Malouf, David. Do Rewards Reduce Student Motivation? School Psychology Review, v12 n1 p1-11 Win 1983.

The reduced continuing motivation effect is examined with regard to research, theory, and implications for practice. The description of research focuses primarily on studies conducted with preschool-aged or school-aged subjects. Explanations based on self-perception or attributional theory and learning theory are examined.

605. Marble, William O., Jr., and others. Science Achievement as a Function of Method and Schedule of Grading. Journal of Research in Science Teaching, v15 n6 p433-40 Nov 1978.

Examines the effects of a continuous schedule vs a partial schedule of feedback on learning. The feedback takes the form of grades and comments on laboratory reports in a grade eight laboratory-oriented program.

*606. Martin, R.C., and T.F. McLaughlin. A Comparison Between the Effect of Free Time and Daily Report Cards on the Academic Behavior of Junior High School Students. B.C. Journal of Special Education, v5 n4 p303-313 Win'81.

The purpose of this study was to compare the effectiveness of free time and daily report card systems on assignment completion and accuracy of four junior high school special education students. The methods were evaluated in a counterbalanced multiple baseline experimental design. The results indicated that both procedures improved students' performance. The subjects performed at a higher and more consistent rate with respect to assignment completion than accuracy. Future considerations for implementing similar programmes across a variety of subject areas and continuing junior high school research for effective classroom management were discussed.

607. McClellan, J., and B. Willis. Increasing Verbal Responses with Specific Praise and Imitative Prompting. Fine, p36-43 Spr'79.

No annotation available.

**608. McCormack, James E., Jr. Pro-Active Behavior Management. Medford, Mass.: Massachusetts Center for Program Development and Evaluation, 1977. 11p. Available ERIC. ED 161 218.

The paper outlines the basic tactics in pro-active behavior management, a behavior modification approach for use with severely handicapped students which reorders the staff/student relationship by focusing on positive interaction. Pro-active behavior management is noted to involve interruption of established behavior chains, environmental rearrangement, redirection, development of competing behaviors, and maximizing positive reinforcement. An example of the pro-active implementation sequence is given.

*609. McLaughlin, T.F., and others. The Effects of Individual and Group Contingencies on Spelling Performance for a Special Education Class. B.C. Journal of Special Education, v4 n3 p263-270 Fall'80.

The effects of individual and group contingencies on the spelling performance of ten special education students were examined in a multi-element baseline design. The overall results indicated high academic performance under either contingency arrangement when compared to a non-treatment baseline condition. Comparisons between the individual and group contingency conditions revealed a slightly higher number of words spelled correctly during the group contingency procedures. The student preferences favored the group over the individual contingency arrangement to a small degree. There were large differences in favor of both contingency procedures when compared with the baseline condition. Possible reasons for the superiority of the group contingency procedures were presented, as well as the ease with which the contingency arrangements could be employed in special classroom settings.

**610. Metham, J. The Curricula of the Behaviourist Program: Kindergarten and Year One. Discussion Papers Numbers 5 and 6.

North Ryde, Australia: Macquarie Univ. School of Education, 1980. 107p. Available ERIC. ED 188 741.

These two papers are products of the Mount Druitt Early Childhood Project, a project established to develop, implement and evaluate five different early childhood programs for disadvantaged children in a suburban area of Sydney, Australia. The programs enrolled children from preschool age through kindergarten and first grade. The first document describes and evaluates the preschool curriculum components of one of the five programs. The second continues the program's curricular descriptions for the subsequent two years. The teaching strategies and learning content are said to be based on behaviorist early childhood programs developed in the U.S.A. during the 1970s. Program objectives for children, their teachers and parents are specified. Social reinforcement techniques, especially descriptive praise statements, and their implementation are indicated. Evaluation results suggest that the preschool program was successful in developing language competency and task mastery as well as promoting prosocial behavior. Mastery of terminal tasks was generally achieved by kindergarten students in the areas of reading, writing and number skills; and first grade students in the areas of number, reading comprehension, writing and spelling. The technique of providing descriptive praise appeared the most difficult skill for teachers to master.

*611. Milne, Lori M. A Counter Perspective of the Token Economy. Education Canada, v19 n2 p21-27,20 Sum 1979.

Presented are some practical, ethical, and legal challenges to the token economy system in a critical look at behavior modification in classrooms.

*612. Morine-Dershimer, Greta. Pupil Perceptions of Teacher Praise. Elementary School Journal, v82 n5 p421-34 May 1982.

Examines elementary-school students' perceptions of teacher praise in relation to their classroom's social and academic status, participation in class discussions, and ethnicity.

613. Mukhopadhyay, Sudesh, and Amarjeet Chugh. Developing a Strategy for Minimizing Underachievement Through Teacher Classroom Behavior. 1979. 17p. Available ERIC. ED 207 725. Microfiche only.

Elementary school teachers were trained in specific classroom behaviors designed to improve student achievement. Effects of the training were measured primarily in terms of academic outcomes for underachievers; outcomes for normal and overachieving students were also examined. In addition to a focus upon achievement, the study was also designed to examine effects of teacher influence on school anxiety and classroom trust. Pupils' levels of academic achievement were identified (1) by calculating percentile ranks for intelligence and scholastic performance and (2) by grouping as under- and overachievers those students whose two percentile ranks significantly differed. Teachers were trained to provide more positive feedback, to understand the needs of underachievers, and to involve more students in classroom discussion. Actual classroom demonstration lessons enabled the teachers to observe the training concepts in operation. Analysis of variance and t-tests were used to test the efficacy of training. Results indicated that training led teachers to increase positive feedback with students and decrease negative feedback. Academic achievement improved for all but the overachievers, classroom trust increased, and school anxiety decreased.

614. Nagle, Catherine C., and others. Use of the Systems Approach for Successful Token Economies. Journal of School Psychology, v16 n3 p245-52 Feb 1978.

The three basic steps of the systems approach are described: the mission profile, the functional analysis, and the method-means. The advantageous use of these steps in planning a token economy is illustrated by a systematic evaluation of a token economy implemented in a sixth-grade setting.

**615. National Education Association. Project on Utilization of Inservice Education R & D Outcomes. CLAIM: Classroom and Instructional Management Program. Description of Teacher Inservice Education Materials. 1977. 8p. Available ERIC. ED 169 021.

The teacher inservice learning module described here is intended to build skills, provide information, encourage attitude changes, and increase the understanding of teachers in regard to behavior modification and classroom management. Behavior analysis is focused as a desired skill, and practical techniques of behavior modification are included. This descriptive report provides information on the purposes and content of the program as well as activities and resources involved. A critique, history of development, and ordering information are also included.

*616. Novak, Gary, and J. Mark Hammond. Self-Reinforcement and Descriptive Praise in Maintaining Token Economy Reading Performance. Journal of Educational Research, v76 n3 p186-89 Jan-Feb 1983.

Researchers used four token reinforcement systems -- tokens only, descriptive praise, self-reinforcement, and a combination of all three--and observed the effect on the problem solving performance of fourth-grade reading students.

Only students using the combination reward system maintained their progress after tokens were withdrawn.

*617. Oien, Fred M. Teacher Directed Behavior Toward Individual Students. 1979. 7p. Available ERIC. ED 175 826.

A study of five teachers and 316 junior high school physical education students reveals an unequal distribution of positive reinforcement teacher behavior among individual students. Factors influencing the amount of rewarding behavior directed to students include elements such as student gender, teacher perception of student skill level, student in-class personality, and customary amount of student class participation. Male students were found to receive a significantly larger amount of encouraging teacher attention than did female students in 18 of the 21 classes sampled. Teacher behavior patterns may reflect the teacher's situational reaction to class chemistry. Effective individualized inservice programs to aid in overcoming personal bias detrimental to the classroom situation are needed.

618. Pace, Denise M., and Susan G. Forman. Variables Related to the Effectiveness of Response Cost. Psychology in the Schools, v19 n3 p365-70 Jul 1982.

Exposed students in four second-grade classes exhibiting disruptive behavior to response cost programs with varying initial reinforcement and fine levels. Results indicated all treatments were highly effective, as all groups underwent maximum behavioral change. Suggests degree of aversiveness of procedure did not appear to be strongly related to effectiveness.

619. Parsons, H. McIlvaine. What Caused the Hawthorne Effect? Administration and Society, v10 n3 p259-83 Nov 1978.

Together, information feedback and differential reward could account for the gradually increasing productivity in the Hawthorne plant, especially in an explanatory framework of response shaping in operant conditioning.

*620. Peeck, J., and H.H. Tillema. Delay of Feedback and Retention of Correct and Incorrect Responses. Journal of Experimental Education, v47 n2 p171-78 Win 1978.

Subjects were immediately tested on a reading passage, and received feedback after 30 minutes or one day, or no feedback. After a week, subjects identified their original responses to three types of test items. One-day delay of feedback gave better results than the 30-minute delay.

621. Pouler, Chris A., and Emmett L. Wright. An Analysis of the Influence of Reinforcement and Knowledge of Criteria on the Ability of Students to Generate Hypotheses. Journal of Research in Science Teaching, v17 n1 p31-37 Jan 1980.

> Explored were the effects of direct or indirect reinforcement and student knowledge of the criteria for acceptable hypotheses on hypothesis generation by ninth-grade students. A combination of both of the variables, reinforcement and knowledge of acceptable hypotheses, appear to lead to better hypothesis generation.

622. Raschke, Donna. Designing Reinforcement Surveys -- Let the Student Choose the Reward. Teaching Exceptional Children, v14 n3 p92-96 Dec 1981.

> Teachers can construct a reinforcement inventory to identify the stimuli and situations a student considers reinforcing. An open-ended, self-report format can be designed to incorporate reinforcers indigenous to the classroom environment.

623. Reese, Sandra C., and others. Assessment of Multiple Behavioral Procedures on Academic and Social Classroom Behavior. Psychology in the Schools, v18 n3 p349-55 Jul 1981.

> Describes behavioral procedures used with adolescent students which involved manipulating type and delay of reinforcement, teaching desirable behaviors, and training in several skills. Implemented procedures through an independent group-oriented contingency system. These students performed significantly better on grades, school attendance, and length of time absent due to suspension.

624. Reitz, Andrew L. The Use of Feedback and Delayed Praise to Increase Participation in a Group Activity. Journal of School Psychology, v17 n3 p237-40 Fall 1979.

> An intervention package consisting of immediate feedback, delayed social reinforcement, and early access to free time was designed and implemented in an attempt to increase the participation of four-year-old nursery school students in a group activity session. Participation increased when the feedback and praise conditions were introduced.

**625. Reyes, Donald J. Proposing Reinforcers for Positive Classroom Management Projects & Experiments in the Inner City High School. 1979. 11p. Available ERIC. ED 183 696.

> Although the principles governing the application of positive reinforcement to classroom situations remain clear and theoretically consistent, practical problems arise during application that are not easily anticipated. This

paper focuses on one practical issue: the selection of appropriate reinforcers to use in inner city high schools. The paper is based on experiences in the development of reinforcement programs in a number of high schools in an urban area. Grade related reinforcers were found to be effective in modifying student behaviors. Nontangible reinforcers were found to be as effective as tangible reinforcers. Token systems were effective; the tokens became reinforcing in and of themselves. Spontaneous social reinforcement could be the most effective system, if it is used properly.

*626. Ruesch, U., and T.F. McLaughlin. Effects of a Token System Using a Free-Time Contingency to Increase Assignment Completion with Individuals in the Regular Classroom. B.C. Journal of Special Education, v5 n4 p347-355 Win'81.

The purpose of this investigation was to determine if a token reinforcement program (with free-time used as the back-up reinforcer) could increase the assignment completion of two elementary school students. The effects of the intervention were examined using a combination of a changing criterion and multiple baseline design. The results indicated that free-time was a very effective reinforcer and that under the token program, the students' assignment completion increased. Questionnaires given to the teacher, students and parents indicated that they felt a positive change in the students' behavior had occurred. Follow-up data, taken three weeks after the experiment was terminated, revealed a maintenance of the treatment effects over time. The practical aspects of the procedures were discussed.

627. Ryan, Bruce A., and Robert Henley Woody. A Case Against Behavior Modification in the "Ordinary" Classroom. Journal of School Psychology, v17 n2 p131-44 Sum 1979.

Aside from questioning the necessity of setting up a behavioral classroom, Ryan's first article points out that: (a) powerful reinforcers can limit ranges of behaviors; and (b) in some circumstances extrinsic rewards undermine a child's willingness. Woody replies with an article promoting the fusion of humanism and behaviorism, to which Ryan answers.

628. Salend, Spencer J., and Kathy Henry. Response Cost in Mainstreamed Settings. Journal of School Psychology, v19 n3 p242-49 Fall 1981.

Illustrates the use of a response cost token system to decrease inappropriate behaviors of mainstreamed students in the regular classroom. Data were taken on a student's inappropriate request for teacher attention and another student's inappropriate verbalizations. Employed a reversal design. Results showed response cost token system as effective.

629. Salzberg, Rita S., and Charles L. Salzberg. Praise and Corrective Feedback in the Remediation of Incorrect Left-Hand Positions of Elementary String Players. Journal of Research in Music Education, v29 n2 p125-33 Sum 1981.

Subjects of the study were five elementary string class students (grades 4-6) who performed consistently with incorrect left-hand positions. Although students varied in response to different teaching styles, praise was always as effective as corrective feedback in changing the left-hand position and more durable in its effectiveness.

*630. Sandeman, M.G., and T.F. McLaughlin. Reduction of Inappropriate Behavior with Primary Mentally Handicapped Children Using Teacher Praise, Ignoring, and Parental Consequences. B.C. Journal of Special Education, v6 n4 p343-350 Win'82.

The purpose of the present investigation was to determine if teacher praise, ignoring, timeout, and parental contingencies would decrease the number of inappropriate behaviors of two MH male primary pupils. The effects of the procedure were evaluated in an ABACDE reversal design. The experiment took place over the period of one year. The results indicated that the program reduced inappropriate noise and behavior of both students. Follow-up data, taken at the end of the experiment, revealed the frequency of inappropriate behavior remained low. The teacher continued the program after formal data collection ceased.

631. Sattler, Howard E. Children's Preference for Response Cost or Positive Reinforcement as Working Conditions. Journal of Psychology, v100 p71-75 Sep 1978.

Significant results favor positive reinforcement and high win ratio in producing shorter average times to complete a response. The 80 first- and third-grade subjects exhibited a preference for continuing the task under the positive reinforcement condition.

*632. Schilling, Deanna E. Reward Experience, Socioeconomic Status, and Sex: Exploring Parameters of the Overjustification Effect. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, 1979. 35p. Available ERIC. ED 193 331.

The overjustification hypothesis predicts decreased intrinsic motivation when persons are paid to perform an interesting task. The factors of reward experience, socioeconomic status (SES), and sex are examined while testing conflicting predictions of the hypothesis and reinforcement theory. Children from grade 1 at two public elementary schools worked on a counting task. Half of the children attended a school which had a 100% minority enrollment (low SES), and half attended a school which had a 95% Caucasian enrollment (middle SES). A Baseline 1, treatment session, Baseline 2 paradigm was used to assess the effects of both reward introduction and withdrawal. Reward experience (group), SES, and sex were manipulated in a 3 x 2 x 2 design. Subjects who earned a reward during the treatment session for maintaining Baseline 1 output levels, significantly outperformed never-rewarded controls during Baseline 2. Control subjects initially highest on motivation measures declined significantly from Baseline 1 to Baseline 2; comparable subjects in the reward groups showed no change. In addition, reward-group subjects that were initially lowest in motivation significantly increased their output and time on task across sessions.

*633. Schonewille, Jack, and others. A Comparison of Punishment and Positive Reinforcement Group Contingencies in the Modification of Inappropriate Classroom Behaviors. Canadian Journal of Education, v3 n3 p21-36 1978.

Measures the relative effectiveness of a short-term punishment versus a short-term positive reinforcement contingency system for reducing the frequency of specific inappropriate behaviors of a group of senior elementary students. Students were directly involved in identifying the different types of discipline so that they might help determine the nature of the class environment.

634. Schulman, Jerome L., and others. Instructions, Feedback, and Reinforcement in Reducing Activity Levels in the Classroom. Journal of Applied Behavior Analysis, v12 n3 p441-47 Fall 1979.

Results indicated that the intervention package -- including instructions, feedback from an electronic device that measures motor activity, and contingent reinforcement -- was successful in reducing activity in the classroom for 8 of the 11 emotionally disturbed Ss (ages 9 to 13 years).

635. Seaton, Hal W., and Robert L. Aaron. Modification of Pupil Attitude toward Reading through Positive Reinforcement Scheduling. Reading Improvement, v15 n2 p96-100 Sum 1978.

A three-school study suggests that more intensive teacher effort, more attention to contriving successful pupil reading experiences, and freer delivery of "payoffs" to pupils who are reading, offer the possibility of modifying pupil attitudes about reading.

636. Sharpley, C.F., and A.M. Sharpley. Contingent versus Noncontingent Rewards in the Classroom: A Review of the Literature. Journal of School Psychology, v19 n3 p250-59 Fall 1981.

Describes operant conditioning as an effective means of modifying behavior of children in typical classes. Emphasizes effective operant procedures as having a contingency between child's response and teacher's reward. Reviews relevant literature. Suggests only tentative evidence from the present review supports the contingency of response and reward.

637. Smith, Bruce D. Responding Effectively to Incorrect Answers. Social Studies, v72 n2 p56-60 Mar-Apr 1981.

Suggests that teachers should view corrective feedback as a constructive reaction to students who answer questions incorrectly and presents examples of how corrective feedback techniques can be used in social studies classes. Stresses that, in order to benefit from corrective feedback, students must focus their attention on the cognitive information presented.

*638. Spaulding, Robert L. Control of Deviancy in the Classroom as a Consequence of Ego-Enhancing Behavior Management Techniques. Journal of Research and Development in Education, v11 n4 p39-52 Sum 1978.

Describes some of the benefits of systematic behavior modification at the elementary level. Elementary school discipline is examined, not as a set of responses to deviancy and delinquency, but as an integral part of generic concepts of classroom management and instruction.

**639. Speidel, Gisela E. The Effect of Various Reinforcement Contingencies on the Accuracy of Children's Self-Reports. Technical Report #46. Honolulu: Kamehameha Schools. Kamehameha Early Education Project, 1975. 16p. Available ERIC. ED 158 859.

This study, part of the Kamehameha Early Education Program (KEEP), investigated the accuracy of children's self reports under various contingencies. Sixteen first grade arithmetic students were randomly assigned to two groups, A and B. It was found that both groups learned to check their own work and report it fairly accurately when no contingencies were present. As soon as a contingency was instituted for correct work, both groups began to inflate their reports. It is argued that accurate self-reports and self-rewards are dependent upon external stimuli. Previous studies showing reinforcement effects of self-reward are analyzed in terms of the present findings. Implications of the use of self-administered rewards for classroom management are discussed.

640. Stephens, Thomas M., and John O. Cooper. The Token Economy: An Affirmative Perspective. Educational Forum, v45 n1 p107-11 Nov 1980.

Lists advantages and disadvantages of the token economy system as a behavior control tactic. Discusses ethical issues relating to the use of behavior modification techniques in the classroom.

**641. Stipek, Deborah J. Motivating Students to Learn: A Lifelong Perspective. Washington, D.C.: National Commission on Excellence in Education, 1982. 56p. Available ERIC. ED 227 111.

Two questions are addressed: (1) What are the motivational characteristics of a child who is most likely to achieve in school at an optimal level? and (2) What kind of educational environment fosters these characteristics? Evidence suggesting that external rewards and punishment can have negative long-term effects on achievement motivation is reviewed. A discussion is given of theoretical and empirical work demonstrating that it is not reinforcement per se that influences children's behavior, but beliefs about one's competencies, perceptions of the cause of achievement outcomes, and values regarding achievement-related rewards that determine behavior. For maintaining high motivation in children, the following strategies are recommended: (1) evaluating on a mastery rather than a normative standard; (2) minimizing salient public evidence of individual childrens' performance; (3) considering errors as a normal aspect of mastering new skills; and (4) providing opportunities for all children to demonstrate competence in activities valued by the teacher. Encouraging students to trust their own evaluations and to set reasonable goals and providing greater autonomy in learning situations are suggested to help them develop independent, self-directed learning strategies.

**642. Stringer, Bobbi Rhe, and H. Thomas Hurt. To Praise or Not to Praise: Factors to Consider before Utilizing Praise as a Reinforcing Device in the Classroom Communication Process. Paper presented at the annual meeting of the Southern Speech Communication Association, Austin, 1981. 17p. Available ERIC. ED 202 054.

For praise to have a positive effect on a child's achievement, teachers must be aware of some important research findings. Varying results of early studies on the benefits of praise still indicate one generalization: either praise or criticism is more effective in reinforcing student achievement than is ignoring achievement. Research in the past two decades has indicated more consistently that positive verbal reinforcement leads to improved achievement. Some educators, however, still hold that praise can be a threat for a child rather than a reward. For example, praise that does not fit a child's self-image can trigger a negative goal-setting process. Praise results in improved achievement only when it is congruent with student needs. Researchers are examining the relationship between praise and behavior, with studies indicating that praise reinforces appropriate classroom behavior and inappropriate behavior can best be controlled by ignoring it rather than punishing it. A study of motivation and praise suggests that students are intrinsically motivated when they engage in behavior because the behavior itself is rewarding. Adding extrinsic reinforcement to an already interesting task does not increase motivation but may instead cause a student to lose interest. However, praise may not be detrimental to intrinsic motivation if it is used to invite a response from the child.

**643. Talent, Barbara K., and Suzanne G. Busch. Improving Classroom Behavior: The Carrot and the Stick. 1982. 15p. Available ERIC. ED 225 675.

A set of practical behavior change techniques for improving young children's classroom behavior are briefly discussed. Techniques are classified and discussed under two general categories: those that reduce frequency of behaviors ("sticks") and those that increase their frequency ("carrots"). Included under "sticks" are techniques such as ignoring the child's target behavior, time out (removing the child for a short time from all sources of attention), overcorrection and undoing (requiring the child to "overcorrect" his misbehavior in his own free time), and taking away privileges (for example, preventing the misbehaving child from participating in a favorite activity or playing with a preferred toy). Classified with the "carrots" are techniques such as giving attention and praising a positive behavior, shaping a behavior (breaking every target behavior into smaller components or steps, which are then reinforced), and contingencies and rules (having the child first demonstrate the target behavior before earning the privilege). To further illustrate how some of these "sticks" and "carrots" may be applied, seven typical and simplified cases are presented.

*644. Tauber, Robert L. Negative Reinforcement: A Positive Strategy in Classroom Management. Clearing House, v56 n2 p64-67 Oct 1982.

Argues that the one portion of behavior modification that educators least understand is negative reinforcement. Discusses the advantages of this technique.

*645. Taylor, Cie, and Karl R. White. The Effect of Reinforcement and Training on Group Standardized Test Behavior. Journal of Educational Measurement, v19 n3 p199-209 Fall 1982.

A comparison of three treatments (training students to take tests, training teachers to administer tests, and reinforcing reading test score improvement) showed that group achievement scores more accurately indicate what students know if motivated to do their best in tests and take tests from teachers trained to administer standardized tests.

**646. Taylor, Cie, and Karl R. White. Effects of Reinforcement and Training on Title I Students' Group Standardized Test Performance. Paper presented at the annual meeting of the American Educational Research Association, Los Angeles, 1981. 10p. Available ERIC. ED 206 655.

To examine the influence of test wiseness and motivation on Title I students' performance in group standardized tests, the effects of training students and teachers in testing skills and reinforcing student testing behavior were investigated during the administration of the Stanford Achievement Test, Level II, to 597 students. Students were randomly assigned to a combination of the following treatment conditions: (1) provision of external reinforcement, contingent on an increase in the student's reading test percentile rank; (2) teacher training in test administration procedures; and (3) student training in test taking procedures. A three way analysis of variance was computed for the three dependent variables of reading test scores, and student and teacher behavior during testing. Major findings showed that the reading test scores of students in either the reinforced or trained test administrator conditions were significantly higher than the scores of students under nontreatment conditions. There were no significant differences in reading test scores between students who were trained in test wiseness and those who were not trained. Trained teachers exhibited a significantly higher percent of on-task behavior during testing than untrained teachers. There were no significant differences in student on-task behavior under any treatment.

647. Terrell, Francis, and others. Effects of Type of Social Reinforcement on the Intelligence Test Performance of Lower-Class Black Children. Journal of Consulting and Clinical Psychology, v46 n6 p1538-39 Dec 1978.

Examined effects of types of reinforcement on performance of Black males on the Wechsler Intelligence Scale for Children-Revised. After correct responses, participants were given no reinforcement, candy rewards, traditional social reinforcement, or culturally relevant social reinforcement. Children given candy or culturally relevant social reinforcement obtained higher scores than other children.

**648. Thompson, L.J. A Survey of Reinforcement Preferences. Research Bulletin Number 3. Australia: Churchlands College of Advanced Education, 1978. 74p. Available ERIC. ED 164 473.

The question examined by this study was: Are the traditional reinforcers common to many planned programs of reinforcement in the classroom relevant and meaningful to the pupils themselves? Data is reported from a questionnaire administered to seven-year-old pupils, ten-year-old pupils, and their teachers. A discrepancy was found between reward preferences of the pupil samples and those of the teacher samples. Age and attainment level were found to be significant variables related to pupils' reward preferences. Ten-year-old pupils placed more emphasis on nontangible reinforcers than did seven-year-old pupils. Ten-year-old pupils of high attainment level placed greater emphasis on nontangible reinforcers than did ten-year-old pupils of low attainment level. Possible explanations and implications of the findings are discussed in this report.

649. Thorpe, Harold W., and Craig B. Darch. A Simplified Reinforcement Technique for Improving Test Accuracy. Psychology in the Schools, v16 n2 p280-86 Apr 1979.

Two reinforcement techniques were compared to determine their relative effectiveness in motivating improved science test performance in a fourth-grade classroom. The first technique, using a backup reinforcer, was effective in decreasing error rate of the class. The second simplified technique, without a backup reinforcer, was equally effective.

*650. Tosti, Donald T., and Roger Addison. A Taxonomy of Educational Reinforcement. Educational Technology, v19 n9 p24-25 Sep 1979.

A taxonomy of educational reinforcers is presented in the following categories: recognition, tangible rewards, classroom learning activities, classroom and school responsibilities, status indicators, incentive feedback, personal activities, social activities, relief from aversive policies or procedures, and relief from aversive classroom environment. Factors to consider in using reinforcers are discussed.

*651. Vitale, Michael R., and Stephen W. Hebbler. Development of a Generalized Study Preference through Reinforcement: An Experimental Paradigm. Journal of Experimental Education, v47 n2 p140-43 Win 1978.

Six fourth graders learned paired associates of their choice under high and low reinforcement conditions. Equivalent lists were also studied as homework on which correct test responses were reinforced equally. The children preferred to study and learned more on the highly reinforced lists during the experimental sessions.

*652. Vockell, Edward. Modified Behavior Modification. Clearing House, v56 n4 p183-89 Dec 1982.

Argues that major behavior modification techniques can be easily and usefully integrated into a classroom management strategy. Focuses on the need for teachers to consider the internal perceptions of students when employing the techniques.

653. Walters, Susan, and others. The Failure of a Successful Intervention: A Case Study. Exceptional Child, v25 n1 p26-35 Mar 1978.

A token and social reinforcement system was used with an 8-year-old special education student to increase on-task behavior during reading and mathematics.

654. Wasserman, Theodore H., and Daniel J. Vogrin. Long-Term Effects of a Token Economy on Target and Off-Task Behaviors. Psychology in the Schools, v16 n4 p551-56 1979.

Examined the effects of a token economy on off-task behavior occurring concurrently with the reinforcement of target behavior. Results indicated that while the token economy maintained effectiveness in terms of increasing the frequency of target behaviors, the frequency of off-task or inappropriate behaviors also increased as the year progressed.

**655. West, Leonard J. Instructional Concepts for Occupational Education. Special Interest Paper. An Occasional Publication for Selected Audiences, No. 20. New York: City Univ., Center for Advanced Study in Education, 1980. 13p. Available ERIC. ED 182 544.

Teachers and teacher educators seem to be little aware of some major concepts about instruction that provide important insights into the central requirements for learning. A common misconception is that motivation has to do with wanting or desiring. It is instead attention to stimuli that is influenced by two powerful agents -- (1) suspense, discovery, curiosity and (2) reinforcement. Introduction of new learning by the arousal and subsequent relief of curiosity is one important motivational tactic. Reinforcement for correct responses or prompt knowledge of results leads to increased student success at the task, which is the most powerful motivator for learning. Student errors can either be corrected immediately to maximize student success or planned by the instructor to result in learner annoyance or perplexity to lead him into the desired responses. Guidance or prompting should be limited to early stages of learning; confirmation of unprompted responses should characterize the vast bulk of instruction. Student behavior should be shaped through a series of successive approximations to the eventual terminal behavior by specifying in measureable terms the standard of acceptability at each stage of learning. Explicit generalization of discrimination training, as applicable, is recommended for presenting the confusable elements present in every learning task.

656. Winson, Andrew S., and others. Children's Self-Reinforcement: Some Evidence for Maximization of Payoff and Minimization of Effort. Child Development, v49 n3 p882-84 Sep 1978.

A group of 40 fifth grade boys and girls worked at a wheel-turning task in which each child could select, on each trial, how many wheel turns would earn a token exchangeable for either two or ten seconds of cartoon-viewing time.

**657. Wollam, Scott. Try P.R.A.I.S.E. - Positive Reinforcement And Individualized Systematic Economics. 1979. 12p. Available ERIC. ED 171 554.

This article describes a multi-faceted money system which utilizes positive and negative reinforcement while at the same time incorporating peer pressure and reinforcement for behavior modification. The system uses such items as money, checks, deposit slips, and bank books. Children have jobs such as pencil sellers, banker, or door monitor, and receive pay checks. The children can spend their money on things such as popcorn, free time, or a bowling trip with the teacher. This system is good for handling behavior problems, teaching economics, and motivating students with low ability. Money is raised to purchase the prizes by a yearly paper drive.

*658. Woodward, Gary L., and others. A Rapid, Effective Technique for Controlling Disruptive Classroom Behaviors. Journal of Educational Research, v74 n6 p397-99 Jul-Aug 1981.

A clock-light cuing device was successfully used in classrooms to control disruptive student behavior. Students were made aware of inappropriate behavior (which caused the light to be turned off) and of the time lost until the behavior was verbally identified and corrected. An accumulation of a specified amount of time in which the light was on resulted in class reinforcement.

*659. Woolfolk, Anita E. Student Learning and Performance Under Varying Conditions of Teacher Verbal and Nonverbal Evaluative Communication. Journal of Educational Psychology, v70 n1 p87-94 Feb 1978.

Teachers presented four behavioral combinations -- (1) verbally and nonverbally positive; (2) verbally positive and nonverbally negative; (3) verbally negative and nonverbally positive; or (4) verbally and nonverbally negative -- to sixth grade students. Negative nonverbal behavior led to significantly greater performance. Teacher gender and student gender, and teacher's verbal behavior also influenced learning.

660. Workman, Edward A., and Robert L. Williams. Effects of Extrinsic Rewards on Intrinsic Motivation in the Classroom. Journal of School Psychology, v18 n2 p141-47 Sum 1980.

Reviews classroom behavior management studies to see if extrinsic rewards affect intrinsic reinforcement value of appropriate classroom behaviors. Conclusion indicates extrinsic rewards are useful. Teachers need not avoid the use of rewards in fear of undermining intrinsic interest.

661. Workman, Edward A., and others. The Consultative Merits of Praise-Ignore versus Praise-Reprimand Instruction. Journal of School Psychology, v18 n4 p373-80 Win 1980.

Compared the effects of two behavior management strategies. More rapid and slightly greater improvement was achieved under the praise-soft reprimand combination than under the praise-ignore combination. Improvement in behavior diminished less rapidly in the reversals following the praise-ignore phases.

*662. Zweig, John T., and others. The Contingent Use of Trading Stamps in Reducing Truancy: A Case Report. Journal of Experimental Education, v47 n3 p230-32 Spr 1979.

A 13-year-old learning-disabled subject received a daily amount of trading stamps contingent on school attendance. Results showed a significant decrease in truancy from three to four days per week to less than one. A reversal design indicated that truancy could be controlled by the contingency procedure.

10. STRUCTURE, PLANNING, DECISIONMAKING, CLARITY

**663. Bernstein, Marlene A. Teachers' Lesson Plans: The Myth and the Reality. 1981. 12p. Available ERIC. ED 202 813.

Although lesson planning is stressed in teacher training programs as a skill essential to effective teaching, the literature shows low correlation between teacher planning procedures and subsequent classroom efficiency. There exist major discrepancies among definitions of how to devise a comprehensive lesson plan, assumptions on what classroom results a lesson plan should produce, and assumptions on the importance of planning. Although most teachers appear to agree that objectives are important in the planning process, there is disagreement in the definition and the writing of these objectives. Because of spontaneous classroom events, teachers appear to prefer more loosely structured lesson plans, as opposed to what they were taught in methods courses. A lesson plan should be viewed as an aid or an option rather than as a necessity that must be strictly adhered to.

*664. Blaney, Robert L. Effects of Teacher Structuring and Reacting on Student Achievement. Elementary School Journal, v83 n5 p569-77 May 1983.

Investigates the effects of one teacher's structuring and reacting behaviors on 53 second graders' learning of factual materials. Four treatment groups were established: high structuring and high reacting, high structuring and low reacting, low structuring and high reacting, and low structuring and low reacting.

*665. Brophy, Jere E. How Teachers Influence What Is Taught and Learned in Classrooms. Elementary School Journal, v83 n1 p1-13 Sep 1982.

Reviews research concerning how teachers determine the content their students learn and discusses both the conscious decision making involved in selecting curriculum and the unwitting reductions and distortions introduced into intended curriculum in the process of attempting to teach.

**666. Brophy, Jere E. Teachers' Cognitive Activities and Overt Behaviors. East Lansing: Michigan State Univ. Institute for Research on Teaching, 1980. 63p. Available ERIC. ED 200 561.

Recent research on teacher planning, thinking, and decision making is reviewed. The work on planning reveals that teachers typically do not use the objectives-based, rational models stressed in textbooks, but instead concentrate on the activities included in a curriculum as they seem to relate to the needs and interests of the students. This indicates the need for training teachers to plan more effectively, and suggests the formation of alternative models of the planning process which might be more appropriate than the rational model. Research on teachers' perceptions, thoughts, and decisions during the teaching process is just beginning, but it suggests exciting possibilities. Work done to date suggests that: most teacher perceptions about students are accurate; most teacher decisions about students are logical and based on appropriate information sources; and teachers' behaviors when interacting with students may be monitored and controlled more consciously than previous work would suggest.

**667. Buike, Sandra. The Shaping of Classroom Practices: Teacher Decisions. East Lansing: Michigan State Univ. Institute for Research on Teaching, 1981. 18p. Available ERIC. ED 206 622.

On the premise that teacher decision making significantly influences instructional effectiveness, this study gives some insight into the decision-making process that shaped the course of reading instruction in four elementary teachers' classrooms. During one school year, the fieldwork method of research was used to discover the decisions teachers made and to describe how these decisions were reflected in their classroom practice. The four teachers made decisions on testing, grouping, materials, and management within the first month of school. After observing and reflecting on the decision-making process and through discussion with the teachers, it was concluded that the underlying purpose of decision making was not to instruct students but to manage them effectively.

**668. Buike, Sandra. Teacher Decision Making in Reading Instruction. Research Series No. 79. East Lansing: Michigan State University, Institute for Research on Teaching, 1980. Paper presented at the annual meeting of the American Educational Research Association, Boston, 1980. 20p. Available ERIC. ED 191 000.

A study was conducted to provide an understanding of teacher decision making as it shaped the course of reading instruction. Specifically, through an analytical description of the patterns of teacher decision making, the study sought to identify and classify the decisions four teachers made and to describe how those decisions were reflected in their teaching. The four teachers selected taught first, second, or third grade and were solely responsible for the reading instruction in their classrooms. In addition, they used materials that allowed teacher decision making to occur. Analysis of teacher interview statements and classroom observation data revealed that teachers do make decisions and that those decisions can be classified according to preactive, interactive, and postactive or evaluative phases of teaching. Teachers made decisions concerning testing, grouping, materials, and classroom management. A close examination of the decision categories showed that teachers' major decisions concerned materials and that there was a conspicuous lack of decisions concerning instruction. The findings suggest that teacher education programs in reading instruction should not only instruct teachers how to teach reading, but how to think about it as well.

*669. Calderhead, J. Stimulated Recall: A Method for Research on Teaching. British Journal of Educational Psychology, v51 n2 p211-17 Jun 1981.

The research method of stimulated recall generally involves the replay of a tape of a teacher's lesson in order to stimulate a commentary upon the teacher's thought processes at the time. The author considers the advantages and disadvantages of his approach, concluding that it has utility for research in teaching.

**670. Carnahan, Richard Stanley. The Effects of Teacher Planning on Classroom Processes. Technical Report No. 541. Madison: Wisconsin Univ. Research and Development Center for Individualized Schooling, 1980. 646p. Available ERIC. ED 189 095.

The two-fold purpose of this study was to determine the effect of providing teachers with background information about student aptitude and motivation on the quality of teacher planning, and the effect of that planning on student achievement. Nine fifth-grade mathematics classes were observed. Three teachers were given student aptitude information and information on motivation strategies used with the students. Three other teachers were given only student aptitude information. The third group was given no information. Classroom observation assessed teacher clarity, motivation strategy, and student engagement. Results indicated that previous information did not affect the quality of teacher planning. Planning was not related to motivation strategy or student perceived teacher clarity. Student engaged time appeared to be related to teacher clarity. A detailed report on this research project is appended to this document.

671. Clark, Christopher. A New Question for Research on Teaching. Educational Research Quarterly, v3 n4 p53-58 Win 1978.

In view of the fact that present studies of teacher effectiveness are incongruent and ineffective, a new approach--cognitive information processing--is evolving. The author contends that this new approach will lead to changes in topics of research, methods of research, and nature of the results.

**672. Clark, Christopher M. Choice of a Model for Research on Teacher Thinking. Research Series No. 20. East Lansing: Michigan State Univ. Institute for Research on Teaching, 1978. 15p. Available ERIC. ED 166 135.

Two models for research on teacher thinking are discussed: the decision-making model and the information-processing model. Research on teaching guided by the decision-making model focuses upon explaining and understanding deliberate teacher activity and is deemed more appropriate for situations in which the teacher has sufficient time and incentive to deliberately decide what to do than it is in the fast-paced context of classroom interactions. In contrast, the information-processing model focuses on how the teacher limits and structures the environment in which he or she must act. Two studies, one using the decision-making model and the other the information-processing model, are examined. It is hypothesized that differences in these areas are due mainly to differences between the models used to conceptualize and guide the research. It is generally concluded that research guided by a decision-making model of teaching tends to be highly controlled, focusing on the decision-making behavior of teachers in situations defined by the researcher. Research guided by the information-processing model, on the other hand, tends to be descriptive, exploring the ways teachers define the situations in which they work and how they cope with a complex classroom environment.

**673. Clark, Christopher M., and Robert J. Yinger. The Hidden World of Teaching: Implications of Research on Teacher Planning. Research Series No. 77. Paper presented at the annual meeting of the American Educational Research Association, Boston, 1980. 35p. Available ERIC. ED 191 844.

Five research studies on teacher planning are reviewed to discover how basic descriptive research can inform the practice. Seven findings are discussed. (1) Planning is important to teachers and generally invisible to everyone else; (2) Planning differs in practice from traditional prescriptions for planning; (3) Planning during the first weeks of school has long range effects; (4) Teacher planning transforms curriculum into instruction; (5) Routines increase teacher efficiency and flexibility; (6) Communicating plans puts thought into action; and (7) Teacher reflection aids teacher development.

**674. Clark, Christopher M., and Robert J. Yinger. Methods for Discovering Cues Used by Judges: Two Working Papers. Research Series No. 11. East Lansing: Michigan State Univ. Institute for Research on Teaching, 1978. 14p. Available ERIC. ED 166 134.

Two research papers focusing on approaches and methods for discovering cues used by teachers in making judgments in the classroom are presented here. The approaches described in the first paper are: review of empirical and theoretical literature concerning the objects to be judged and the behavior of judges; interview of judges to determine what they believe the salient cues are; participant observation of situations in which the judgments of interest are taking place; and choice of very simple objects to be judged. The quantitative methods for discovering cues are listed in the second paper as follows: prespecify a large list of potentially relevant cues and then use observation and regression analysis to narrow the list; use the semantic differential; use multidimensional scaling; and use Kelly's Role Repertory Test. References are included.

675. Clark, C.M., and B. Yinger. Research on Teacher Planning: A Progress Report. Journal of Curriculum Studies, v11 n2 p175-77 Apr-Jun 1979.

Describes study of lesson planning based on the thinking processes of elementary teachers. The study focuses on how teachers gather, organize, interpret, and evaluate information to be taught.

*676. Clark, Christopher M., and Robert J. Yinger. Research on Teacher Thinking. Curriculum Inquiry, v7 n4 p279-304 Win'77.

No annotation available.

*677. Clark, Christopher M., and others. A Factorial Experiment on Teacher Structuring, Soliciting, and Reacting. Journal of Educational Psychology, v71 n4 p534-52 Aug 1979.

Each of four teachers taught ecology to eight sixth-grade groups. Eight treatments factorially varied two levels of teacher structuring, soliciting, and reacting. Low soliciting yielded higher student achievement. Low structuring and low reacting interacted to yield lower achievement. Retention measures showed similar main and interaction effects.

*678. Combs, Allan, and others. An Analysis of the Direct and Mediating Effects of a Teacher Behavior on Student Achievement. Paper presented at the annual meeting of the Southwest Educational Research Association, San Antonio, 1980. 16p. Available ERIC. ED 182 304.

This study investigates the relationship between teacher verbal maze rate and student learning and the threshhold levels of maze rate on the perceived quality of teaching. The direct and mediated effects of maze rate on achievement are examined. A randomized group design with ten levels of the independent variable teacher maze rate was used. There were significant correlations between maze rate and mean student perception, between mean student perception and mean achievement, and between maze rate and mean achievement. As a result of this and previous studies, it is concluded that student achievement and perceived teaching quality decrease monotonically with increasing maze rate, that any threshhold levels of the effects of mazes occur between zero and 1.66 mazes per minute, and that student perception is a better zero predictor of student achievement than is the direct effect of mazes.

*679. Cooley, William W., and Gaea Leinhardt. The Instructional Dimensions Study: The Search for Effective Classroom Processes. Final Report. Pittsburgh: Pittsburgh Univ., Learning Research and Development Center, 1978. 109p. Available ERIC. ED 167 580.

To evaluate classroom processes for teaching basic reading and mathematics, particularly individualized instruction in the context of compensatory education, a model of classroom processes was applied to disadvantaged children from 400 schools, grades one and three. The model specified that criterion performance is a function of initial student performance and four classroom processes: opportunity, motivators, instructional events, and structure. Criterion performance was measured by achievement gains on the Comprehensive Test of Basic Skills. A list of observable and measurable variables for each process was identified. Opportunity was the most powerful predictor of achievement gain. The most important findings for policy makers are the lack of clear evidence regarding the superiority of individualized instruction for compensatory education, and the insignificant relationship between extent of pull-out instruction and achievement. The strongest predictor of achievement gains, opportunity, refers to the degree of overlap between what was taught in a specific classroom and end-of-year achievement test content, as estimated by the teacher and by curriculum content analysts. The data imply that what is taught is more important than how. The appendix includes a rationale for the four processes and their respective variables, commonality analysis results, and correlations with gain for each predictor variable.

*680. Cruickshank, Donald R., and others. Clear Teaching: What Is It? British Journal of Teacher Education, v5 n1 p27-33 Jan 1979.

Three studies attempting to define teacher clarity are described. In each case students are asked to rate teacher behaviors in terms of clear or unclear behaviors. The results of each study indicate categories of characteristics of teacher clarity.

**681. Duffy, Gerald, and Linda Anderson. Conceptions of Reading Project. Final Report. East Lansing: Michigan State University, Institute for Research on Teaching, 1982. 99p. Available ERIC. ED 218 583.

A 4-year project, Conceptions of Reading, was established to provide information about how teachers use reading theories and models and other conceptions as they plan and carry out reading instruction. The nature of the methodology dictated that the over-all goal of the project be to characterize how teachers think about reading and their reading instruction. The first year of the project focused on conceptualizing the scope of the project and developing the variety of measures that would identify teachers' conceptions of reading. Years 2 and 3 involved field studies in which 23 teachers were observed and interviewed to determine their conceptions and practice of reading instruction. In the fourth year, three teachers who were experiencing some contextual change were observed to determine effects of the change on conceptions and practice. The collected data suggest that a teacher's conception of reading is not a static set of beliefs regarding what reading is and how it should be presented but is, rather, a "free-floating" element that has little meaning until it is filtered through the teacher's conceptions about the classroom as a social unit and applied to a specific teaching context.

**682. Floden, Robert E., and Sharon Feiman. Should Teachers be Taught to be Rational? Paper presented at the annual meeting of the American Educational Research Association, Boston, 1980. 20p. Available ERIC. ED 196 889.

Teacher education programs have often attempted to make teachers more rational by use of apriori models. These models poorly correspond to teachers' thinking styles. Three distinct reactions to this problem have occurred. One proposed solution is to break the apriori model into separate component skills and to train teachers in each skill. A second approach is to train teachers to operate according to the apriori models of rationality and to apply the learned principles in the classroom. The third approach suggests that the discrepancies between theory and practice demonstrate that teachers should not be pressed into these preformed molds. It is most desirable to enable teachers to be rational by helping them choose effective strategies. Since few teachers follow the steps provided in the apriori model, it is important to understand how teachers make decisions. Teacher education programs which prescribe teacher behavior are miseducative. Current research on teacher thinking should not provide prescriptions that may serve as the content of preservice or inservice teacher training programs.

**683. Fox, Ronald B., and others. Effects of Peer-Rated Coping and Teacher Structure on Achievement. Paper presented at the annual meeting of the American Psychological Association, Toronto, 1978. 13p. Available ERIC. ED 168 712.

A total of 1657 sixth grade pupils in 53 randomly integrated tri-ethnic classes, and their teachers, participated in a 1-year longitudinal study investigating the effects of peer-rated coping and teacher classroom structure on achievement. The subjects were given initial achievement and peer-rated general coping measures and a post achievement measure. The teachers were rated on Ryan's Classroom Observation Record, a measure of teacher classroom behaviors, from four to seven times during the year. Achievement gain for pupils was found to vary strongly with coping skill only for those initially high in achievement. Highly organized teachers could help low initial achievement, high coping students, and disorganized teachers could have a negative effect on low coping, high initial achievement pupils with respect to achievement gain.

**684. Gil, Doron. The Decision-Making and Diagnostic Processes of Classroom Teachers. Research Series No. 71. East Lansing: Michigan State Univ. Institute for Research on Teaching, 1980. 17p. Available ERIC. ED 189 575.

A study was conducted to investigate the decision-making and diagnostic processes of classroom teachers in reading diagnosis. Ten teachers interacted with simulated cases of reading difficulties in a laboratory setting and were observed and interviewed in their own classrooms about their instructional and diagnostic practices. Data analysis consisted of product measures (the outcomes of the interaction with a case), process measures (the manner in which a case was diagnosed), and classroom interviews (the diagnostic categories most frequently thought of by teachers). The major findings were that the teachers (1) showed little agreement with each other on their final stated diagnostic judgments for a case, (2) lacked comprehensive or systematic approaches to gathering and evaluating information about children's reading difficulties, and (3) used similar global diagnostic categories in laboratory situations and in the natural classroom environment. These findings suggest that there is a need for more thorough and effective training of teachers in diagnostic and remedial skills.

*685. Grimmett, Peter P. Clinical Supervision and Teacher Thought Processes. Canadian Journal of Education, v6 n4 p23-39 1981.

This paper attempts to develop a conceptual link between recent research on teaching, particularly on teacher thought processes, and clinical supervision. The author's thesis is that knowledge derived from research on teaching constitutes the substantive base upon which the rigorous analysis of teaching espoused by the clinical approach can be established. Goldhammer's (1969) five-phase cycle is analyzed in light of recent "commitments to teaching" identified by Dunkin and Biddle (1974). More significantly, the paper analyzes the clinical approach in light of the growing research on teacher thought processes and exposes a potential gap in the clinical framework. The author argues that the link between clinical supervision and teacher thought processes warrants a modification of the cycle in the form of the "isotopex" -- a brief exchange at the conclusion of the observation phase that provides for evaluation in terms of preactive and interactive objectives and strategies.

**686. Haigh, Neil. Research on Teacher Thinking. Paper presented at the National Conference of the New Zealand Association for Research in Education, New Zealand, 1981. 31p. Available ERIC. ED 213 657.

An increasing number of researchers have contended that the process of teaching is composed of thoughts as well as actions and that a complete understanding of teaching cannot be achieved if research is limited to observable teacher performance alone. A study was designed to examine: (1) the nature of teacher thoughts before and during lessons; (2) the relationship between teacher thoughts and actions; (3) the reasons teachers offer for their thoughts; and (4) the circumstances they believed accounted for teaching success. Data was gathered from three experienced teachers and three student teachers. They were asked to capture their pre-lesson planning thoughts by writing their thoughts as they occurred during the planning process. A stimulated-recall procedure was used to help them identify incidents in the course of the lessons where their thoughts and feelings had been clearly and consciously registered. They answered a questionnaire immediately after they completed their pre-lesson planning and participated in a structured interview. Common to all of the teachers was the view that lescon plans were necessary for their "security." This sense of security rested on the knowledge that at any point in the lesson they knew what they might or should do next. They also felt that when they planned in advance, they were likely to find more opportunities to consciously and calmly contemplate a lesson, its problems, and possible solutions to those problems. Often, however, circumstances made it necessary for the teachers to change or modify their plans. As a result of the teachers' responses, a conclusion is that teacher education programs should emphasize diversity rather than uniformity in lesson plan instruction. Samples of the teachers' planning sheets and responses to interview questions are appended as well as a bibliography of 37 studies on teacher thought processes.

**687. Hines, Constance V., and others. Measures of Teacher Clarity and their Relationships to Student Achievement and Satisfaction. Paper presented at the Annual Meeting of the American Educational

Research Association, New York, 1982. 18p. Available ERIC. ED 222 531.

The relationship between teacher clarity (as reflected by both low-inference and high-inference measures) and the student outcome measures of achievement and satisfaction were examined. Data on 32 preservice teachers, each of whom taught the same lesson to a small group of their peers, were provided by trained observers using the Teacher Clarity Observation Instrument; by the teachers completing a Teacher Post-Instruction Questionnaire; and by participating students completing a short unit posttest and a corresponding student Post-Instruction Questionnaire. The data were subjected to a variety of canonical variate and regression analyses, as well as path analysis techniques. It was shown that there is a positive, highly significant, and substantial relationship between clear teaching behavior and student achievement and satisfaction when assessed within the context of a peer teaching laboratory situation.

688. Joyce, Bruce. Research into the Teaching Mind: A Vital Direction. Educational Research Quarterly, v3 n4 p10-15 Win 1978.

Over 100 systems have been developed that permit the recording and categorizing of teacher and student behavior. The cognitive processes of practicing teachers' decision making must be studied in order to deduce a common base whereby teaching decisions could be improved.

689. Joyce, Bruce. Toward a Theory of Information Processing in Teaching. Educational Research Quarterly, v3 n4 p66-77 Win 1978.

Major concepts of information processing in teaching were reviewed, and a proposed framework was designed. The author contends that teachers' information processing primarily affects long term decisions, flow of activities, and the selection of materials.

**690. Joyce, Bruce, and Kathleen McNair. Teaching Styles at South Bay School: The South Bay Study, Part I. Research Series No. 57. East Lansing: Michigan State Univ. Institute for Research on Teaching, 1979. 54p. Available ERIC. ED 187 666.

Ten elementary school teachers were observed twelve times throughout a single school year in order to investigate the ways in which teachers make decisions and eventually develop their distinctive individual teaching styles. In nearly all cases, the teachers used a materials-based recitation pattern of teaching characterized by high task-orientation, directive procedures, and a focus on factual information. There were stylistic variations in management of the recitation, such as the use of corrective feedback, increased attention to concepts, and negotiation within the goals originally established by the teacher, but for the most part the recitation approach was stable across teachers and time. Approaches to high and low ability groups were similiar. However, styles for handling procedures were more varied in subject areas other than reading. Also, ratios of attention to feedback, structuring, and information-processing fluctuated considerably across time, while still remaining within the parameters of the overall recitation pattern.

*691. Kennedy, John J., and others. Additional Investigations into the Nature of Teacher Clarity. Journal of Educational Research, v72 n1 p3-10 Sep-Oct 1978.

This article reports on research instruments administered to junior high school students from Australia, Ohio, and Tennessee studying student responses to descriptions of selected teacher behaviors relating to teacher clarity. Two primary and two secondary factors that relate to teacher clarity are identified.

**692. Land, Michael L. Joint Effects of Teacher Structure and Teacher Enthusiasm on Student Achievement. Paper presented at the annual meeting of the Southwest Educational Research Association, San Antonio, 1980. 19p. Available ERIC. ED 182 310.

The purpose of this study was to determine the joint effects of low inference variables of teacher enthusiasm and teacher structure (degree of personal organizational capability of a given teacher) on student achievement. Eighty-six undergraduate subjects were randomly placed into one of four treatment groups to view a videotaped presentation. The main effect of structure was significant, in favor of the more highly structured group. Neither the main effect due to teacher enthusiasm nor the interaction effect was significant. These and additional results are discussed in relation to previous research in the field.

**693. Land, M.L., and Alice Denham. Effect of Teacher Clarity on Student Achievement. Paper presented at the annual meeting of the Southwest Educational Research Association, Houston, 1979. 11p. Available ERIC. ED 177 127.

The results of the experimental effect of low-inference teacher clarity variables on achievement and on retention were determined by means of a randomized control group, posttest only, basic design. Members of an introductory education class viewed videotapes of lessons containing either high or low teacher clarity variables. Subjects who took a 30-item criterion test immediately after the viewing were compared to subjects who took a "delayed achievement" criterion test one week after viewing the tapes. Significant differences resulted for the main clarity effect and for the main effect of time-of-achievement. The interaction effect between clarity and time-of-achievement was not significant, i.e., there was no significant differential effect of level of teacher clarity on student retention.

*694. Land, M.L., and L.R. Smith. The Effect of Low Inference Teacher Clarity Inhibitors on Student Achievement. Journal of Teacher Education, v30 n3 p55-57 May-Jun 1979.

Research on the effects of teacher clarity on student achievement levels suggests that teacher trainees should concentrate on reducing their use of "vagueness terms" and ambiguous word phraseology in a classroom situation.

**695. Land, M.L., and L.R. Smith. Low Inference Teacher Clarity Variables: Effects on Student Achievement. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, 1979. 12p. Available ERIC. ED 179 499.

A description is given of three studies on the effects of teacher clarity upon student achievement. Three low inference variables of teacher clarity -- vagueness terms, mazes, and additional unexplained content -- were selected for study. Vagueness terms are words or phrases indicating approximation, unclarity, or lack of assurance. A maze is defined as any unit of discourse that does not make semantic sense such as false starts or halts in speech, redundancy, and tangles of words. Clarity is exemplified by simplicity of expression. Eight lessons, scripted to be conducted by one teacher, each containing examples of lack of clarity, were observed. The results of these studies indicated a cause-effect relationship between teacher lack of clarity and student achievement. The effects in absolute terms, however, were small.

**696. MacKay, A. An Exploration of the Relationship Between Teacher Thought Processes and Behavior. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, 1979. 22p. Available ERIC. ED 171 684.

This study examines the relationship between covert decisions by teachers and classroom behavior. The decisions of 12 classroom teachers were analyzed through stimulated recall and content analysis techniques. Results indicate that there is a clear and powerful relationship between thought and action. A majority of covert decisions led to immediate action in the classroom. Hypotheses for future research were generated.

*697. MacKay, D.A., and P. Marland. Thought Processes of Teachers. Univ. of Alberta, Centre for Research in Teaching, 1978. 36p. Available ERIC. ED 151 328.

Stimulated recall from videotapes of the lessons of six teachers in two elementary schools was used to obtain data on teachers' interactive thoughts and cognitive processes. A content analysis system was developed and used to examine the transcribed recall interviews. The information processing of all six teachers conformed to a broad pattern. Teacher thoughts were principally about lesson tactics to be used next, past lesson events, expectations for students, and predictions about future lesson developments. Teachers had few thoughts about lesson plans, lesson objectives, past teaching behavior, and its impact on students and the lesson. Some cognitive behavior of teachers was similar to that of clinicians.

698. McCaleb, Joseph L., and Jacqueline A. White. Critical Dimensions in Evaluating Teacher Clarity. Journal of Classroom Interaction, v15 n2 p27-30 Sum 1980.

An analysis of studies on teacher clarity reveals five components: (1) understanding; (2) structuring; (3) sequencing; (4) explaining; and (5) presenting. Three additional dimensions to be considered are rater qualifications, teacher dynamism, and student opportunity to learn.

699. McCutcheon, G. How Do Elementary School Teachers Plan? The Nature of Planning and Influences on It. Elementary School Journal, v81 n1 p4-23 Sep 1980.

Research findings consistently indicate that teachers do not typically follow the "objectives-first" model of planning. Instead, teachers plan around their students and around activities. This study involved an in-depth investigation of the planning procedures of 12 teachers in Grades 1 through 6. Information was collected from classroom observation, informal interviews, meetings with teachers and administrators, teachers' planbooks, administrative memos and children's daily work. Researchers found that teachers did not write down objectives or long-range plans because they felt these matters were covered in their manuals and through the assigned textbooks. Teachers engaged in considerable mental planning, but only short reminders of planned activities were written into the planbook. Rules established by some administrators appeared dysfunctional to teacher planning by closely regulating the time to be spent on each subject, requiring teachers to write out objectives and submit lesson plans weekly, preventing use of supplementary materials and even requiring teachers to be on a specific page in the Mathematics text by the end of each month. Teachers encountered further difficulties in maintaining lesson flow as a result of interruptions, textbook shortcomings, and schedules requiring various students to move from class to class. The authors conclude that administrative procedures which reflect teacher planning approaches should be adopted and that teacher education programs should provide a more realistic and helpful view of the complex nature of teacher planning.

700. McKibbin, Michael. Thinking and Training: The Meaning of the South Bay Study for Inservice Education. Educational Research Quarterly, v3 n4 p78-82 Win 1978.

The author contends that in order to change teacher classroom behavior, the thought processes of the teacher (while teaching) must be made conscious and be altered through in-service training.

701. McNair, Kathleen. Capturing Inflight Decisions: Thoughts while Teaching. Educational Research Quarterly, v3 n4 p26-42 Win 1978.

Teachers' "inflight" decisions were investigated by recording those cues in the classroom to which teachers responded. Through stimulated recall interviews, it was found that the cues teachers noticed and based decisions upon were global and tended to adhere closely to the traditional recitation model of teaching.

**702. McNair, Kathleen, and Bruce Joyce. Teachers' Thoughts While Teaching: The South Bay Study, Part II. Research Series No. 58. East Lansing: Michigan State Univ. Institute for Research on Teaching, 1979. 46p. Available ERIC. ED 191 797.

This study of teacher decision-making behavior investigated ten elementary teachers' teaching styles, decision-making behavior, and concepts of students. Each teacher was videotaped six times at intervals over the school year. The teachers viewed the tapes and at various points were asked to describe what they believed they were thinking about at the time. These descriptions were analyzed and categories of concern emerged. In order of significance the concerns reported were: content of the lesson, procedures, time, and materials. Concern with pupil learning, attitudes and behavior accounted for nearly forty per-cent of the total, and concern with learning tasks, facts, and ideas for nearly thirty per-cent. Concerns were relatively stable across time, and individual differences between teachers were relatively small. The effect of these concerns on teaching style are discussed. Teachers tended to make "fine tuning" adjustments within the recitation pattern of teaching rather than make major changes in teaching strategy.

703. McNair, Kathleen, and Bruce Joyce. Thought and Action, A Frozen Section--The South Bay Study. Educational Research Quarterly, v3 n4 p16-25 Win 1978.

"Thinking while teaching" was explored in a case study of teaching styles at an elementary school. Data were collected by stimulated recall interviews, classroom observation, *and pupil sort tasks. The data suggested a high* correlation between teachers' observable behavior and cognitive processes.

**704. Mintz, Susan Levy. Teacher Planning: A Simulation Study. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, 1979. 24p. Available ERIC. ED 170 276.

The purpose of this study was to describe the preactive decisions made by a group of elementary teachers as they plan reading instruction for ten unfamiliar children as though it were the beginning of a new school year. Participants in this simulation were provided with a complete profile on each child's school and family background. Resulting data indicated that teachers seek out such background information before making planning decisions. A majority of the teachers planned lessons that stressed particular reading skills. Teachers relied on the basal teacher's manual when planning, though a variety of materials were consulted during the preactive process. Activities, along with content, were usually specifically stated in the written plans. Teachers tended to manage the complexity of providing reading instruction to a variety of ability levels through the use of reading groups. On the average, teachers spent 6.5 hours per week on their planning, with more time spent on planning for primary grades than on intermediate. Reading and language arts received the greatest emphasis in planning. The majority of the teachers planned alone.

**705. Mintz, Susan L., and Sam J. Yarger. Conceptual Level and Teachers' Written Plans. Paper presented at the annual meeting of the American Educational Research Association, Boston, 1980. 20p. Available ERIC. ED 189 030.

Teachers devise lesson plans based on one of two "conceptual levels" (degree and kind of materials, diagnosis, student background research, and classroom and time management). Higher conceptual level (HCL) teachers emphasize diagnosis and student characteristics in their plans, while lower conceptual level (LCL) teachers give special consideration to materials and classroom techniques. A study of the lesson planning procedures of 68 elementary school teachers provided categorical data on the tasks typically involved in the planning process. The results indicate that the Higher conceptual level (HCL) teachers emphasize diagnosis and student characteristics in their plans, while lower conceptual level (LCL) teachers give special consideration to materials and classroom techniques. A study of the lesson planning procedures of 68 elementary school teachers provided categorical data on the tasks typically involved in the planning process. The results indicate that there is no significant difference between HCL and LCL plans, although the differences become more significant when the teachers are further subdivided into age, grade levels taught, and length of time used for planning. Implications for teacher training programs are presented.

**706. Morine-Dershimer, Greta. A Study of Teacher Planning. Special Study C. Beginning Teacher Evaluation Study. Technical Report Series. San Francisco: Far West Lab. for Educational Research and Development, 1976. 155p. Available ERIC. ED 146 160.

Twenty more effective and twenty less effective teachers were studied to determine if they differed in the ways they plan for instruction. The effectiveness of the teachers was determined by their ability to affect gains in reading and mathematics over two weeks of instruction with a specially designed curriculum unit. Four variables were noted as distinguishing between the planning of the more and less effective teachers. These were: (a) whether the teacher used specific or general information in planning; (b) whether the teacher believed students had the potential to learn the material; (c) whether the teacher considered the cognitive aspects of instruction; and (d) whether the teacher produced much of his or her own instructional materials. When the findings of this study were compared to the findings of a coordinated study of teacher and pupil perceptions of classroom interaction, two of the variables were found to be important in both teacher planning and classroom interaction. These two were teacher tendency to think in generalities rather than specifics, and teacher attention to cognitive aspects of lessons.

707. Morine-Dershimer, Greta. How Teachers "See" Their Pupils. Educational Research Quarterly, v3 n4 p43-52 Win 1978.

Information processing of elementary teachers in the classroom was investigated by interviewing teachers. Findings indicated that the context (time of year, instructional setting, and curriculum-management system) was a key factor in information processing.

708. Morine-Dershimer, Greta. Planning in Classroom Reality: An In-depth Look. Educational Research Quarterly, v3 n4 p83-99 Win 1978.

The information processing of teaching was investigated in a case study, comparing the behavior and cognition of ten elementary school teachers. Data indicated that the amount of discrepancy between teaching plan and classroom reality was a critical variable in the information processing of teachers.

**709. Morine-Dershimer, Greta. Teacher Plan and Classroom Reality: The South Bay Study, Part IV. Research Series No. 60. East Lansing: Michigan State Univ. Institute for Research on Teaching, 1979. 66p. Available ERIC. ED 191 796.

This paper focuses on an analysis of relationships among interactive behavior, interactive decision making, and interactive processing of information about pupils as perceived by teachers in the course of a lesson. Three teachers participated in the study. In response to a general request to state their plans for the lesson, the teachers consistently mentioned content to be covered and activities to be engaged in, and frequently mentioned the materials to be used in the planned lesson. The influence of the discrepancy between the teacher's expectations and the actual events during the lesson on teacher decision making is illustrated in three case studies corresponding to three different degrees of teacher-perceived discrepancy between plans and classroom reality.

*710. Morrison, Thomas L. Classroom Structure, Work Involvement, and Social Climate in Elementary School Classrooms. Journal of Educational Psychology, v71 n4 p471-77 Aug 1979.

Fourth- through sixth-grade classrooms were observed, and a social climate questionnaire and the Test Anxiety Scale for Children were administered. Analysis of variance showed that high-structured classrooms had the most work involvement. Both high child activity and low control by teachers were related to more active deviancy.

**711. Munby, Hugh. The Place of Teachers' Beliefs in Research on Teacher Thinking and Decision Making, and on Alternative Methodology. Paper presented at the annual meeting of the Southwest Educational Research Association, Austin, 1982. 45p. Available ERIC. ED 214 864.

Research on teacher thinking generally has failed to take into account teacher beliefs and understandings in both research methodology and in interpretation of data. Two models prevail in research on teacher thinking. The decision making model, which has undergone several modifications, tends to focus on explaining and understanding deliberate teacher activity. The second model for research on teacher thinking is the cognitive information process model, which focuses on how the teacher limits and structures the complex environment into what are called "problem spaces," which essentially are simplifications of environmental components. A review of research dealing with teacher thinking reveals that inadequate attention to the beliefs of both the teacher and the researcher can seriously weaken the inferences drawn. Problems arise when assumptions are made about teacher perceptions, when inadequate survey instruments are used, and when it is not recognized that teachers can have several widely varied and complex types of beliefs. An alternative methodology is being used to understand the various beliefs that drive teachers to plan and teach in different ways. The technique involves the identification, through interviews with teachers, of constructs or beliefs that form a grid that can be analyzed factorially. After discussion and analysis with the teacher, patterns of underlying factors emerge and lead to understanding of relationships and significant behaviors. This methodology could be used with lesson observation and stimulated recall to produce an effective research tool on teacher thinking.

**712. National Education Association. Project on Utilization of Inservice Education R & D Outcomes. Managing Unusual Classroom Problems (3 Modules). Description of Teacher Inservice Education Materials. 1977. 8p. Available ERIC. ED 171 671.

The teacher inservice learning module described here focuses on skill building for management of unusual classroom problems such as learning disabilities, discipline, and emotional and physical problems of students. Information is provided on the purposes and content of the modules as well as activities and resources involved. A critique, history of development, and ordering information are also included.

*713. Peterson, Penelope L., and others. Teacher Planning, Teacher Behavior, and Student Achievement. American Educational Research Journal, v15 n3 p417-32 Sum 1978.

Experienced teachers had 90 minutes to think aloud and plan the lesson before an experimental teaching session. Most planning decisions concerned lesson content rather than objective setting, student diagnosis, or instructional strategy. Planning differences were related to teachers' cognitive styles and abilities. Relationships between planning, teacher behavior, and student achievement appeared.

*714. Shavelson, Richard J. Review of Research on Teachers' Pedagogical Judgments, Plans, and Decisions. Elementary School Journal, v83 n4 p392-413 Mar 1983.

Research on teachers' judgments, instructional planning, and decision making during classroom interaction is reviewed.

715. Shavelson, Richard J., and Hilda Borko. Research on Teachers' Decisions in Planning Instruction. Educational Horizons, v57 n4 p183-89 Sum 1979.

This paper focuses on one aspect of preactive teaching by introducing a model of teachers' decision making in planning and by reviewing research on teachers' decisions about grouping students for reading instruction. Includes information teachers seek and use in grouping decisions and effects of these decisions on instruction and learning.

**716. Smith, Lyle R., and Brenda N. Hodgin. A Low-Inference Indicator of Lesson Structure in Mathematics. 1981. 17p. Available ERIC. ED 207 856.

High school geometry students were presented lessons with either a high degree of structure or a low degree of structure. Structure was defined in terms of the frequency with which concepts were repeated from one sentence to the next. After the lessons, students were tested for comprehension of the material covered and then they rated the lessons in terms of perceived effectiveness. Students presented the high structure lesson achieved significantly higher and rated the lessons higher. These findings are discussed in relation to previous research on structure.

717. Smith, Lyle R., and Grace H. Bramblett. The Effect of Teacher Vagueness Terms on Student Performance in High School Biology. Journal of Research in Science Teaching, v18 n4 p353-60 Jul 1981.

Analyzes a study which examined the effects of teacher vagueness on comprehension of high school biology students (N=48) regarding the vascular system of angiosperms. Includes the finding that teacher vagueness terms significantly affect student achievement and student perception of lesson effectiveness.

*718. Smith, Lyle R., and Mary Linda Cotten. Effect of Lesson Vagueness and Discontinuity on Student Achievement and Attitudes. Journal of Educational Psychology, v72 n5 p670-75 Oct 1980.

For seventh-grade mathematics students lesson discontinuity and teacher vagueness terms significantly affected student achievement, and the interaction between continuity and vagueness was significant. Vagueness terms significantly affected student perception of lesson effectiveness.

719. Smith, Lyle R., and Michael L. Land. Low-Inference Verbal Behaviors Related to Teacher Clarity. Journal of Classroom Interaction, v17 n1 p37-42 Win 1981.

Two low-inference teacher clarity variables, vagueness terms and mazes, are discussed in terms of their effect on student achievement and on student perception of lesson effectiveness. Results indicate that high frequencies of teacher vagueness terms inhibit student achievement and cause students to perceive the lesson as ineffective.

*720. Winne, Philip H., and Ronald W. Marx. Students' and Teachers' Views of Thinking Processes for Classroom Learning. Elementary School Journal, v82 n5 p493-518 May 1982.

Explored (1) the cognitive responses elementary-school students made to teaching events and (2) the cognitive processes their teachers intended them to use in typical classroom lessons.

*721. Wodlinger, Michael. Decision Making in the Classroom. Canadian Administrator, v21 n7 p1-6 Apr 1982.

Observation of one sixth-grade teacher's classroom decision making, using videotaping and interviews, revealed that decision making occurred frequently during each lesson, comprised mostly instructional and managerial decisions, and was based more on teacher assessments of students' states of mind than on teacher knowledge.

*722. Yinger, Robert. Routines in Teacher Planning. Theory into Practice, v18 n3 p163-69 Jun 1979.

The relationship between preactive planning and teacher control of the classroom environment is examined, and various modes of activity, instructional, management, and executive planning routines are discussed.

**723. Yinger, Robert J. A Study of Teacher Planning: Description and a Model of Preactive Decision Making. Research Series No. 18. East Lansing: Michigan State Univ. Institute for Research on Teaching, 1978. 63p. Available ERIC. ED 160 605.

The primary objective of this study was to describe those mental processes in which teachers engage while making preactive planning decisions. This objective was approached by means of a detailed descriptive case study of one elementary teacher's planning decisions for a five-month period. The study was designed to address a need for descriptions and theoretical models of planning processes and to examine the usefulness of certain decision-modeling methods for describing complex decisions made in field settings. Both ethnographic and information-processing approaches were used to describe distinctive features of the teacher's planning technology and to develop two models of teacher planning. The structural model identifies five levels of planning used by this teacher and describes the goals, cues, form, and effectiveness criteria used at each level. The process model represents decision processes differing from the goals-alternatives-choice sequence of the linear planning model. Problem finding, problem formulation, and a design process involving cycles of plan elaboration and mental "trying out" are presented as major planning processes.

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